Ivy Tech

**Central Indiana Region
Bulletin 1990-1991
921-4800**

Ivy Tech-Indianapolis is accredited by:
North Central Association of Colleges and Schools

Ivy Tech-Indianapolis is professionally accredited by:
The American Medical Association Committee on Allied Health
Education and Accreditation
    American Association of Medical Assistants
    Association of Surgical Technologists, Inc.
    American Registry of Radiologic Technologists
    Joint Review Committee on Respiratory Therapy Education
National League of Nursing
American Design and Drafting Association
American Culinary Federation, Inc.

Ivy Tech-Indianapolis is approved by:
Indiana Commission on Vocational and Technical Education
Indiana State Board of Nursing
Indiana State Board of Health
    Qualified Medication Aide
    Nurse Aide
    Social Service/Long Term Care
Chef de Cuisine Association of Indiana, Inc.

Ivy Tech Bulletin 1990-1991

Indiana Vocational Technical College
January 1991

NONDISCRIMINATION POLICY AND EQUAL OPPORTUNITY/AFFIRMATIVE ACTION PROGRAM

Indiana Vocational Technical College seeks to develop degree credit programs, courses, and community service offerings and to provide open admission, counseling, and placement services for all persons, regardless of race, color, creed, religion, sex, national origin, physical or mental handicap, age or veteran status.

CATALOG DISCLAIMER

This catalog is intended to supply accurate information to the reader.

From time to time, certain information may be changed.

The College may revise any matter described in this catalog at any time without publishing a revised version of the catalog. Information which appears to apply to a particular student should be verified by the Office of Student Services. This publication and its provisions are not in any way a contract between the student and Indiana Vocational Technical College.

Indiana Vocational Technical College, Region 8, fully enforces and supports equal opportunity and affirmative action. The College does not discriminate on the basis of age, race, color, religion, sex, handicapping conditions or national origin, including, limited English proficiency in any employment opportunity. No person is excluded from participation, denied the benefits of, or otherwise subjected to unlawful discrimination on such basis under any educational program or student activity.

If you believe you have experienced discrimination in educational programs or activities, direct written inquiries about available procedures or written complaints for consideration of alleged discrimination to the Director of Employee Relations, Region 8, One west 26th Street, P.O. Box 1763, Indianapolis, IN 46206. The Director of Employee Relations is available to assist employees and students in matters where perceived discrimination exists. You may reach the Director of Employee Relations at 921-4762.

January 1991
Regional Relations

MESSAGE FROM THE VICE PRESIDENT/ CHANCELLOR

Indiana Vocational Technical College-Central Indiana is truly an educational leader in the Greater Indianapolis community. Through the years we have continued to broaden and strengthen our educational programs as well as the services we provide our students. Our role as an important educational and training resource will be dramatically enlarged as the labor force changes to a more technically and service-oriented mix through the year 2000.

Since our first group of students was welcomed in 1966, the college has worked diligently and purposefully to serve an ever-increasing constituency.

Ongoing upgrading of our curriculum remains our top priority. We have taken steps to broaden the options for students seeking careers or further education by strengthening our relationship with other four-year colleges and universities. We have been hard at work in building effective working partnerships with business and industry so that the College will be up-to-date on current trends.

These are exciting times at Indiana Vocational Technical College as we move to serve the community in different ways. Certainly we face challenges. Yet the opportunities for the College have never been greater. We look forward to the opportunity of serving you.

Dr. Meredith L. Carter, Vice President/Chancellor

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COLLEGE PROFILE

Moving Forward

In just over a quarter of a century, Indiana Vocational Technical College, popularly known as Ivy Tech, has grown from an idea to a thriving post-secondary institution. In 1963, the Indiana General Assembly established Ivy Tech as Indiana's first statewide vocational technical college by appropriating $50,000 for its development. Following appointment of a State Board of Trustees, a president was named and the first training program was established in 1965. Later amendments to the enabling legislation authorized Ivy Tech's present regional structure of thirteen administrative centers designed to provide accessible technical educational opportunities to all Indiana citizens. Between 1966 and 1969 thirteen regional boards of trustees were appointed and thirteen regions chartered.

The mission of Ivy Tech is stated in the authorizing legislation: "There shall be, and hereby is created and established, a new state post-high school educational institution to be devoted primarily to occupational training of a practical, technical, and semi-technical nature for the citizens of Indiana." Ivy Tech's mission was broadened in 1971 by the added authority to grant diplomas and certificates, including one-year Technical Certificates and two-year Associate degrees, to students successfully completing prescribed programs. Furthermore, the College was granted permission to offer general education courses for vocational technical education programs.

The College has shown impressive growth in its relatively short history. Enrollment increased from 3,233 students in the fall quarter of 1968 to 28,924 in the fall of 1989.

Ivy Tech serves the following target population groups:

1) students who have not graduated from high school;

2) high school graduates interested in continuing their education in a vocational-technical education type institution with programs of shorter duration than a four-year college program;

3) students who have not completed college work;

4) college graduates interested in supplementing their education with training;

(5) adults needing and desiring retraining or additional training in a vocational-technical specialty.

Within the statewide Ivy Tech system, some 1,500 full- and part-time faculty members teach in more than 50 program areas offered in four instructional divisions: Business, Office and Information Systems Technologies; Visual Communications Technologies; Human Services and Health Technologies; and Applied Science and Technologies.

The College's regional offices of Business and Industry Training work closely with Indiana businesses to offer customized training and retraining in response to specific company needs. These training programs are available at Ivy Tech or in-plant.

Regional History

Ivy Tech-Central Indiana at Indianapolis, one of the College's 13 regions, opened its doors in 1966 to serve residents of Indianapolis and Marion, Morgan, Hancock, Johnson, Shelby, Boone, Hendricks, and Hamilton counties. In 1966, 367 students enrolled in three technical programs; in 1990, 4,580 students enrolled in 33 areas of study. Further, state leaders in government and business are looking to Ivy Tech more than ever before to provide the skilled technicians that will attract new industry to the state.

Facilities

The Ivy Tech-Central Indiana campus is located north of downtown Indianapolis. The central campus is located at One West 26th Street, corner of Fall Creek Parkway and North Meridian Street, and is comprised of the North Meridian Center and the new Technology Center. The East Washington Street Center, 1315 E. Washington Street, houses the Automotive Service Technology program.

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ENTERING THE COLLEGE

Admissions—Non - Degree Objective

Ivy Tech offers courses in many special career areas. Admission as a non-degree student is easy. Simply complete a registration form, obtain an advisors signature, and register. Please check with a counselor to see if the course you want is available to non-degree students. Call 921-4800.

Admissions—Degree Objective

For admission as a degree-seeking student to one of Ivy Tech's programs leading to an Associate Degree or Technical Certificate, the requirement is a high school diploma or GED certificate. Admissions, Counseling, and Registrar can provide a request form to the student. The College must receive an official copy of high school transcript or Official Report of GED Test Results. Students need to get reports in by the end of first semester. Human Services and Health Division students may need to get their copies of transcripts or scores before starting their first semester.

Applicants are advised to participate in academic assessment testing. The purpose of testing is to measure the student's achievement in basic skills areas of mathematics, reading, writing, reasoning, and communication.

If assessment indicates that the applicant has the basic skills needed for success in the chosen program, he/she may be allowed to begin program level coursework. If the assessment reveals skill deficiencies, the applicant will be advised to complete appropriate developmental coursework. Applicants may enroll in program courses when academic deficiencies are not prerequisites for successful completion of the program course. Students may or may not be eligible for financial aid during this period.

If the assessment indicates that the applicant is unlikely to achieve success at Ivy Tech at that time, he or she will be referred to an appropriate community resource offering the needed assistance. The applicant may reapply at a later date, following completion of skills upgrading.

Assessment testing may be waived in certain programs if the applicant submits either:

(a) an official transcript from an accredited post-secondary institution indicating academic achievement consistent with Ivy Tech's admission standards;

(b) adaptable standardized test scores (i.e., SAT, ACT) at a high school level.

The College reserves the right to guide the enrollment of students in particular programs or courses on the basis of past academic records, vocational/technical counseling, and testing.

Students seeking admission to certain health occupation programs may be requested to take part in specific pre-enrollment assessments and/or interviews to fulfill College or external agency requirements. Certain prerequisites, such as health examinations, may be required before enrolling in specific programs or courses.

Readmission

Should a course of study at Ivy Tech be interrupted during a semester, appropriate drop/add paperwork must be completed. If a student is either withdrawing from classes or simply not re-enrolling for classes, the student may request readmission at a later date. This may be accomplished by contacting the Office of Admissions and Counseling. Information on eligibility for financial aid will be available to returning students, from the Office of Financial Assistance.

Limited Admissions Enrollment

Sometimes the number of students admitted and enrolled in programs and/or courses is limited by College resources or facilities—

including available lab equipment or the number of available health program clinical work stations. The Office of Admissions and Counseling should be contacted regarding the access status of different programs.

Admission Procedures and Support Documents—Degree Objective

1. The College requires all students to complete the student admission data form, which establishes records in the Admissions Office.

2a. Proof of high school graduation or GED completion is normally required for admission into a program leading to a certificate or a degree. The high school graduate or individual who has the GED should request the secondary school or testing center to send an official copy of the transcript or GED certification to the Office of the Registrar by the end the first semester of attendance.

2b. Students whose high school transcript is not in English must have their high school transcript translated into English. All international students must have their transcripts evaluated.

3. The College has counselors available to assist students in selecting a course of study at Ivy Tech.

4. The College recommends that program declared students either provide acceptable standardized test scores or participate in the College academic diagnostic testing program.

5. Should a student wish to transfer a credit to Ivy Tech from another college, the student must have an official copy of the grade transcript or other document forwarded from that institution to Ivy Tech before enrolling for courses, or if applying for financial aid. This must be done no later than halfway through the first semester of enrollment or re-enrollment.

6. The College requires a health examination for certain programs.

Transferring to the College

The College encourages enrollment of students who have previously attended other recognized colleges and universities to talk to the Office of Admissions and Counseling. Students who have had such education and feel they may be able to test out of certain courses may contact their program chairperson. Students are responsible for providing course descriptions and/or copies of the college catalog(s) if further documentation may be needed to facilitate the transfer credit review. Foreign students must have all documents translated into English. The College will be glad to assist individuals with the evaluation of their prior educational experiences. Ivy Tech-Central Indiana does not accept for transfer credit taken at a foreign institution. However, through an Admissions Counselor, students with college work are encouraged to talk with appropriate program chairpersons to see if testing out of courses is possible, based on previous college or work experience.

The College reserves the right to refuse admission or to accept conditionally those students who have been dismissed for disciplinary reasons from other colleges or universities.

Transferring to Other Colleges

It is the right and responsibility of the receiving institution to decide whether to accept credits from another institution. The Associate of Applied Science degree (A.A.S.) and the certificate programs offered by Ivy Tech are intended to prepare students with the necessary knowledge and skills to enter or advance in the workplace. In general, the A.A.S. and certificate programs are not designed to transfer to other institutions. However, some receiving institutions permit a student to receive credit for a course upon successful completion through an examination of an A.A.S. or certificate program. Ivy Tech offers Associate of Science (A.S.) degree programs at certain sites which, through agreements with specific institutions, are designed to transfer. Students interested in transfer programs and credit by examination should check with the Office of Admissions and Counseling.

International Students

International students must meet the College admission standards and certain other requirements. Students should request an international packet from the Office of Admissions and Counseling which has all the details. International students should apply for admission to Ivy Tech at least ninety (90) days prior to the beginning of the term they wish to attend.

An international student must also provide proof of adequate financial support for College fees and living expenses for each year while attending the College. Please refer to the international packet.

Special Needs

College programs and facilities are designed to be accessible to handicapped students. Ivy Tech-Central Indiana has designated parking and special restroom facilities for the physically handicapped. Support Services will also aid handicapped students with career planning, financial aid application, personal counseling, and placement. The College staff works with The Department of Vocational Rehabilitation and other service agencies to assist physically and psychologically impaired students through available local community resources.

Students with handicaps are urged to contact the Special Needs Office at 921-4983 for help with their special challenges as students at Ivy Tech.

Instructional Services

In keeping with its mission and goals, the College serves people 16 years and older in educational programs consistent with projected job requirements and personal interests. The purposes of Ivy Tech's technology programs are to develop competent workers for initial employment, to upgrade the skills of those already employed, and to provide a foundation of thinking and analytical skills to meet the requirements of society's expanding knowledge base. Ivy Tech programs provide skills training and instruction in recent technological advancements and developments.

Ivy Tech programs are designed to meet the needs of the student population, accommodating those who wish to enroll in a few classes as well as those who prefer a full program. Credit programs normally culminate in the Associate in Science degree, the Associate of Applied Science degree or the Technical Certificate. The College's 50 degree programs are offered in these four divisions:

Business, Office and Information Systems Technologies;
Visual Communications Technologies;
Human Services and Health Technologies;
Applied Science and Technologies.

Short-term training is available in selected credit courses, in sequences of credit courses, and in custom-designed credit courses for local businesses and industries. Also available are contract training programs, and non-credit institutional activities, such as seminars, workshops, and conferences.

In addition to program and custom-designed courses, Ivy Tech offers basic skills instruction for students who request or require academic support and/or study skills to assist them in successful completion of a regular program of study. Additionally, enrollment in certain basic skills courses is designed to prepare the student for the GED examination.

Associate in Science (AS) Degree Programs

Associate in Science degree programs prepare students for technical career opportunities and also enable students who have an interest and ability to transfer a predetermined amount of Ivy Tech credits to cooperating four-year institutions. The degree requires the satisfactory completion of a program of study representing a planned progression of learning experiences. These technical programs emphasize cognitive skills intended as pre-baccalaureate study and provide courses equivalent to those prescribed in the lower division of the receiving four-year college or university. Students enrolling in the program are required to take the General Education courses with a recognized four-year institution.

On December 11, 1987, the Indiana Commission for Higher Education authorized an expansion of the College to offer an Associate in Science degree. Currently the College has approval to award the Associate in Science degree in Early Childhood Development, Nursing, Computer Programming Technology, Commercial Art Technology, Accounting Technology, Marketing Technology and Architectural Drafting at selected Ivy Tech sites.

Students should contact Regional Instructional Services to receive information about additional transfer-oriented programs being developed at other Ivy Tech locations.

Associate of Applied Science (AAS) Degree Programs

Associate of Applied Science degree programs prepare students for career mobility within occupational clusters at the technician or technology level. The programs offer training in recognized technologies and specialities with emphasis on analysis, synthesis, and evaluation. The program content, which is approximately 75 percent technical and 25 percent general education, provides both depth and breadth in conceptual and manipulative skills. The general education courses, offered in the areas of communications, humanities, mathematics, life and physical sciences, and social sciences, equip students with the occupation-related technical and social skills they need to compete successfully in the job market. Elective courses, determined regionally, provide flexibility in the programs.

Technical Certificate (TC) Programs

The Technical Certificate programs provide training in conceptual and manipulative skills for specific occupations. Each program contains a sequence of required courses in a recognized specialty within one of the technologies taught at

the College. The program content is designed to develop competency in the comprehension of general and technical skills in that specialty.

Career Development Certificates (CDC)

Ivy Tech provides short-term programs for individuals who desire to develop competencies in a specific area. These programs are less than 32 semester credits in length. Instruction is delivered through methods that include regular courses and specifically designed courses. Many of these courses are based on a sequence of learning experiences determined by a certifying state or national association or organization. Completion of certain short-term programs qualifies a student to sit for a certification exam in a specific area. The number and types of short-term programs vary among the Ivy Tech locations.

Business and Industry Training Programs

Ivy Tech offers specialized training services for business and industry. Directors of Business and Industry Training are responsible for the development of custom-designed programs and services that meet the training needs of local businesses. Through its offices statewide, the College provides training services in which Ivy Tech consults, designs, produces, conducts, and evaluates courses specifically prepared to satisfy employer needs, on a one-time or on-going basis. The Directors work with business and industry, trade unions, and public and community economic development groups to assess training needs and to deliver training when and where it is needed, often in-plant.

The services provided by the Business and Industry Training programs help ensure that the skills of employees of Indiana firms are current with changing technology. Instruction that best meets a company's specific needs is delivered through methods that might include regular courses, short-term courses, seminars, conferences and the use of mobile computer labs.

As the third largest of Indiana's public institutions of higher education, with more than 25 years of experience in vocational and technical instruction, Ivy Tech has been and continues to be a leader in promoting Indiana's economic development by providing com-

prehensive training services to Indiana businesses and industries.

Off-Campus Classes

In response to the needs of Region 8 residents, Ivy Tech provides credit courses at a number of off-campus sites. Currently, more than 75 regular credit courses are being offered at 9 off-campus locations. These locations are Ben Davis, Lebanon, Noblesville, Greenfield, Walker Career Center (Warren Central), Shelbyville, Greenwood, Martinsville, and Mooresville.

Basic Skills Advancement Program Services

Ivy Tech offers a Basic Skills Advancement Program to help ensure the success of students in the completion of their educational goals. This program is designed for students who are encountering academic difficulty or have been identified as having encountered academic difficulty in the past. Ivy Tech is concerned about the success of its students, and this program is designed to ensure that every student has had the opportunity to be successful.

Services provided include diagnostic assessment and evaluation, career counseling and financial aid information. Ivy Tech students preparing for the GED examination may take a practice test and receive academic counseling. Special Needs Services provides supportive services to students with handicaps to aid in achieving academic and vocational goals. The services include interpreters for the deaf, adaptions for the hard of hearing, taped books, tutoring services, counseling and liaison with other agencies. The need for these services may be identified at the time of admission; however, a student may utilize any or all services upon encountering academic difficulty during a course of study. Professional basic skills advancement instructors and laboratory technicians provide supplemental instruction in the areas of math, communications, sciences, human relations, GED preparation and study skills.

The delivery of instruction may be a basic skills advancement course in a classroom setting. It also may be offered to students one-

on-one as tutorial assistance or as a self-paced study in the Tutoring Lab. For further information about the College's Basic Skills Advancement Program, the student should contact either the Office of Admissions and Counseling or the General Education and Support Services Division.

COURSE NUMBERING SYSTEM

Courses are identified by a three-letter prefix that designates the program area, followed by three numbers for course identification. Courses numbered in the 100 series are first year and 200 series numbers indicate second year courses. Courses numbered 001 to 099 indicate Basic Skills Advancement Courses.

Division of Business, Office and Information Systems Technologies
ACC Accounting Technology
SEC Administrative Office Technology
CPT Computer Programming Technology
CUL Culinary Arts Technology
DSM Distribution Management
HMM Hotel/Motel Management
IST Industrial Supervision Technology
INF Information/Data Management
MKT Marketing Technology
LEG Paralegal Technology
BUS Small Business Operations

Division of Human Services and Health Technologies
HCA Health Care Administration
CCT Child Development Technology
HST Human Services Technology
MEA Medical Assistant
RAD Radiologic Technology
RES Respiratory Care Technology
PNU Practical Nursing
SUR Surgical Technology

Division of Applied Sciences and Technologies
AFS Applied Fire Science Technology
AMT Automated Manufacturing Technology
ABR Automotive Body Repair Technology
AST Automotive Service Technology
DCT Drafting/CAD Technology
ELT Electronics Technology
HEA Heating/Air Conditioning/Refrigeration Technology
ILT Industrial Laboratory Technology
IMT Industrial Maintenance Technology
MTT Machine Tool Technology
PTT Pollution Treatment Technology
WLD Welding Technology

Division of General Education and Support Services
BSA Basic Skills Advancement
ENG Communications
HUM Humanities
MAT Mathematics
SCI Life and Physical Sciences
SOC Social Sciences

IND Business and Industry
REL Related Education

Student Services Information

Test-out Procedures

Policies regarding testing out of courses vary from program to program. A student who wishes to test-out of a course should contact the program advisor. A $5.00- per -credit -hour fee may be charged for the tests. The general guidelines for test-out are as follows:

1. Test-out examinations should be taken before registering for the course for which the test-out is attempted.

2. Test-out examinations are normally completed at one sitting (unless the test is offered in two parts, i.e., lab and written exams).

3. Test-out credits are not included in credit computations for financial aid programs or student grade point averages.

REGISTRATION

Registering for Courses

The registration process includes financial aid and program counseling, selection of courses, and payment of fees. Newly admitted students will be notified of when to register for their first semester classes.

Specified days are set aside for registration before the beginning of each semester. Students should seek assistance in course selection from faculty advisors or counselors through the Office of Admissions and Counseling before registering for classes.

The Office of Admissions and Counseling can supply information concerning registration. NOTE: STUDENTS ARE REGISTERED WHEN FEES HAVE BEEN PAID.

Open/Late Registration

Please see class schedule for course reservation days and regis-

tration times. Registration on or after the first day of classes each term is considered late. Students may register after the first week of classes with the permission of the instructor; however, a late registration fee is assessed after the first day of classes. For further information, students are asked to contact the Office of Admissions and Counseling.

Drop-and-Add

Courses may be dropped or added during the first two weeks of the regular semester. Students may be eligible for a full or partial refund of the assessed fees for courses dropped during the first four weeks of the semester. Students changing, adding or withdrawing from a class must notify the College in writing using the drop/add form. **This form must be presented to the Office of the Registrar. After the first week of the semester, students will need to receive the permission of the instructor to add a course.**

Student Withdrawal

From the beginning of the third week to the end of the week marking the completion of 75 percent of the course, a student may withdraw from a course by filing a completed withdrawal form at the Office of the Registrar and discontinuing class attendance. (Students may be eligible for a full or partial refund of the assessed fees—see below.) Records will then indicate status of "W" in place of a grade for that course. A student who discontinues class attendance after the last day to withdraw with a "W" will receive a grade commensurate with the course requirements.

COLLEGE FEES

The College seeks to provide quality education at the lowest possible cost. General fees are based on the number of credit hours for which the student has registered. Additional costs include Divisional fees and special fees pertaining to particular courses or College activities. Out- of- state students pay an additional fee per credit hour.

Additional Expenses

The following additional expenses may apply, depending upon the program of study:

BOOKS: All students are expected to purchase the textbooks for their respective programs. The cost of books will vary according to classes taken.

TOOLS: The College furnishes major equipment items for instruction; however, in many programs or courses students must furnish additional hand tools and equipment.

UNIFORMS AND OTHER SPECIAL EQUIPMENT: Several programs require students to furnish uniforms and special safety equipment.

ROOM AND BOARD: Since Ivy Tech is not a residential college, room and board fees are not applicable.

TRAVEL: Transportation costs to and from the College vary according to the distance and the type of transportation used.

For a current schedule of fees and further information, contact the Office of Admissions and Counseling.

Payment of Fees

All enrolled students must make arrangements at the time of registration to pay all applicable fees. A student is officially registered and allowed to attend classes when all fees have been satisfied.

REFUND POLICY

Students choosing to drop or withdraw from a course or courses must notify the College in writing using the drop-and-add or withdrawal form. The fee refund for voluntary withdrawal from a class, when applicable, will be processed only after the student files a College drop-and-add form or withdrawal form with the Office of the Registrar.

The College will refund students' assessed fees, with the exception of the late registration fee, on a schedule computed as follows for a regular semester:

From registration to end of first week of semester: 100% refund

To end of second week of semester: 75% refund

To end of third week of semester: 50% refund

To end of fourth week of semester: 25% refund

After fourth week of semester: No refund.

The effective date for calculating the fee refund is the date of written notification of the drop-and-add form.

Certain other fees may be refundable. Further details are available from the Bursars Office.

All refunds will be issued by check and mailed to the address shown on the student registration form.

Cancellation of credit courses by the College will result in total refund of fees collected for those courses.

FINANCIAL ASSISTANCE

Indiana Vocational Technical College offers various types of financial assistance to students who need aid to continue their education. Students must be accepted for admission to the College in an eligible program. Sources of financial aid may be offered to eligible full time and part time students.   The Office of Financial Assistance will help with information concerning student aid programs.

Some aid programs are administered by the College Office of Financial Assistance under the policies and guidelines established by the state and federal governments; others are administered directly by a state or federal agency or outside organization. A few programs may be available on a regional basis only. Eligibility for most financial assistance at Ivy Tech is based upon the student's demonstrated financial need. To qualify for any form of financial aid the student must complete either the Financial Aid Form (FAF) or the **Application for Federal Student Aid (AFSA)** each year and meet additional eligibility requirements (i.e., citizenship or permanent resident status, draft compliance, reasonable academic progress).   Additional information concerning federal, state and college financial assistance is available in the financial aid brochure.

Grants and Scholarships

The following forms of financial assistance are available to Ivy Tech students.

Pell Grants

Pell Grants represent the largest federal student assistance program for Ivy Tech students. Since the grant is based on the student's need, enrollment status, and cost of education at Ivy Tech, the amount may vary from semester to semester. To apply the student should file the Single File Form or the College Scholarship Service Financial Aid Form available at any Ivy Tech Office of Financial Assistance. The Pell Grant applicant will receive a copy of the Student Aid Report in the mail. The Student Aid Report must be presented to the Office of Financial Assistance before or at the time the student enrolls in order to determine the amount of the grant.

Supplemental Educational Opportunity Grant (SEOG)

SEOG is a federally funded student aid program which enables colleges to make grants to financially needy students to assist in the payment of educational costs. Applicants must file the the Financial Aid Form or the Single File Form to establish eligibility. Since the amount of SEOG funds allocated to the College by the federal government is limited, awards vary each year.

Hoosier Scholar Program

The State Student Assistance Commission of Indiana may award from one to three scholarships per high school, based on the size of the graduating class. Candidates are nominated by their high schools. The Hoosier Scholarship is a one-time, nonrenewable merit award in the amount of $500 for one academic year.

Higher Education Award Program (HEA)

Residents of Indiana may apply for Higher Education Awards. Applicants must file the Financial Aid Form by March 1 preceding their enrollment for the following fall semester. Awards are based on demonstrated financial need. Recipients of HEA awards must be enrolled full-time each semester in order to be eligible to receive the grant.

Lilly Endowment Educational Awards (LEEA)

Lilly Endowment Educational Awards are intended to help meet remaining financial need after federal and state dollars are applied. Applicants must file the Financial Aid Forms by March 1 preceding the enrollment for the following fall semester. Recipients of Lilly awards must be enrolled full-time each semester in order to be eligible to receive the grant.

Ivy Tech and Foundation Scholarships

Many Ivy Tech regions award scholarships provided by the Ivy Tech Foundation and local civic and service organizations. Students should contact the regional Financial Assistance Office for details concerning availability of these scholarships.

Ivy Tech Grants

Ivy Tech provides an extensive grants-in-aid program. Each Ivy Tech Regional Center has a fee remission grant fund for students with special needs arising from unusual circumstances. Fee remissions are available under five separate programs:

1. Ivy Tech Grant awarded on the basis of need.

2. Ivy Tech Scholarship awarded on the basis of merit.

3. Ivy Tech part-time new students' grants awarded to first-time students enrolling in 1-5 credit hours.

4. Statutory Fee Remissions provided to certain groups of students such as children of Disabled Veterans, orphans of deceased police and firefighters as determined by the Indiana Legislature.

5. Out-of-State Fee Remissions may be available in certain cases to deserving students who are residents of other states but live in counties which are contiguous to Ivy Tech locations in Indiana.

EMPLOYMENT AND LOANS

Federal College-Work-Study Program

The federally funded College-Work-Study Program provides part-time employment to students who need financial assistance. Job assignments are within the College. The student is required to file the FAF or Single File Form. The starting hourly rate will be at least the

federal minimum wage level. Employment may consist of, but is not limited to, secretarial and clerical office work, maintenance or custodial work, duties in the Learning Resource Center (LRC), or work as lab assistants. Where possible, students are offered work-study assignments in areas related to their career objectives.

Stafford Loans

Students who attend classes on at least a half-time basis may borrow up to $2,625 per year from private lenders, such as commercial banks, savings and loan associations, or credit unions. The Federal government determines the interest rate on a Stafford Loan. Currently the rate is 8 percent. The federal government pays the interest on the loan to the lender during the time the student is in school, provided the borrower has met certain criteria set by the federal government for the interest subsidy.

Students begin repayment six months after graduation or reduction of class load to fewer than six credit hours. Applications for Stafford Loans may be obtained from any Ivy Tech Office of Financial Assistance or from the student's hometown bank, savings and loan association, credit union, or other financial institution. The regional Financial Aid Office must complete a portion of the loan application and approve it before it can be forwarded to the lender for processing.

Parent Loan for Undergraduate Students (PLUS)/SLS

The PLUS/SLS program is intended to assist students and parents in financing education when all other types of financial assistance have been denied or exhausted. An independent undergraduate student is eligible to borrow a maximum of $6,625 per year through the PLUS/ SLS and Stafford programs combined. Parents of dependent undergraduate students may be eligible to borrow a maximum of $4,000 in addition to the $2,625 that the student may be eligible to borrow under the Stafford Loan Program. The interest rate on SLS/PLUS is currently 11.5 percent, and repayment begins within thirty to sixty days after the loan is made. The federal government does not pay an interest subsidy on this loan.

Veterans' Benefits

Students who served in the armed forces may be eligible for veterans' benefits. The Veterans Administration, and, in many instances, the Department of Defense, determine eligibility for veterans.

The amount of monthly educational allowance will depend on (1) enrollment status and (2) individual entitlement of each veteran.

The veteran should meet with the Veteran Affairs Coordinator at the campus of his or her choice at the earliest possible date. The College is responsible for reporting the attendance of veterans and certifying that they are making reasonable progress toward an education objective.

Selected Reserve Educational Assistance Program

Members of the U.S. Army Reserve, Naval Reserve, Air Force Reserve, Marine Corps Reserve, Army National Guard or Air National Guard may be eligible for benefits under Chapter 106 of the VA Regulations. Eligible students should contact VA Coordinator for additional information and applications.

Child of Disabled Veteran (CDV) Benefits

Children of deceased or disabled veterans may be eligible for fee remission benefits. Students should contact the Ivy Tech VA Coordinator for further information and assistance in applying for benefits. Indiana residents who are the children of deceased or disabled veterans, or of veterans awarded the Purple Heart may be eligible for a fee waiver at Ivy Tech if the parent's death, disability, or Purple Heart award occurred as a result of military service during wartime.

OTHER SOURCES OF FINANCIAL ASSISTANCE

Police and Fire Fighters' Orphans Benefits

Children of deceased, regularly paid, law enforcement officers and fire fighters are eligible for a fee waiver if the parent's death occurred in the line of duty The fee waiver is granted only to full-time students under the age of 23. Certification from the appropriate agency must be presented to the College in order to obtain the fee waiver.

Vocational Rehabilitation

Students with disabilities that may be considered handicaps to employment may qualify for benefits through the Indiana Rehabilitation Services Board. The local office of the Division of Vocational Rehabilitation (DVR) establishes the conditions of eligibility and awards assistance, based on individual need. The DVR expects students to apply for the Pell Grant and other forms of financial aid through the school. However, if these resources are not sufficient to meet their needs, the DVR may provide additional funding. Further information is available from the local DVR counselor.

Job Training Partnership Act (JTPA)

Students from economically disadvantaged backgrounds may be able to obtain assistance in acquiring vocational training or in upgrading occupational skills through the Job Training Partnership Act as implemented in October 1983. For further information, the student should contact the local Private Industry Council (PIC) Office.

Trade Readjustment (TRA)

The Trade Readjustment Act provides full tuition and fees, books, and supplies to eligible students. Students should check with their local Indiana Employment Security Division to determine eligibility.

Employer Funded Education

Many employers are willing to fund courses taken at Ivy Tech in full or in part when the training offered relates to the employee's job responsibilities. Interested students should contact their employers to determine if such an arrangement can be made.

Industry-Union Training Funds

Many unions have training funds available for members. Interested students should contact their union regarding availability of training funds for use at Ivy Tech.

APPLICATION PROCEDURES FOR FINANCIAL AID

Application forms are available in the Office of Financial Assistance at all Ivy Tech regional locations. Because application proce-

dures, deadlines, eligibility regulations, and refund policies vary with different types of student aid programs, interested students are encouraged to contact the Office of Financial Assistance at their earliest opportunity. Students should allow from six to eight weeks processing time for most financial aid programs although students are encouraged to apply for assistance at any time. The fall semester marks the beginning of the financial aid award year.

APPEALS-FINANCIAL ASSISTANCE

The following steps are recommended to the student whose financial assistance has been suspended and who wishes to appeal the suspension:

1. Schedule a personal conference with the regional Financial Aid Manager to discuss and resolve the issue.

2. If the situation is not resolved with the Manager of Financial Assistance, the student may appeal with the Financial Assistance Appeals Committee. That committee will review the situation and make a final decision.

STUDENT RECORDS

Ivy Tech maintains an educational record for each student who is, or has been, enrolled at Ivy Tech. In accordance with the Family Educational Rights and Privacy Act of 1974, as amended, the following student rights are covered by the Act and afforded to all students at Ivy Tech:

1. The right to inspect and review information contained in the student's educational records.

2. The right to challenge the contents of their educational records.

3. The right to a hearing if the outcome of the challenge is unsatisfactory.

4. The right to submit an explanatory statement for inclusion in the educational record if the outcome of the hearing is unsatisfactory.

5. The right to prevent disclosure, with certain exceptions, of personally identifiable information.

6. The right to secure a copy of the institutional policy.

7. The right to file complaints with the Department of Education concerning alleged failures by Ivy Tech to comply with the provisions of the Act. Each of these rights, with any limitations or exceptions, is explained in the institutional policy statement, a copy of which may be obtained in the Office of Admissions.

At the discretion of College officials, Directory Information may be provided in accordance with the provisions of the Act without the written consent of the student unless the student requests, in writing, that such information not be disclosed (see below). The items listed below are designated as Directory Information and may be released for any reason at the discretion of Ivy Tech unless a request for nondisclosure is on file.

• Name, address, telephone number, dates of attendance.

• Previous institution(s) attended, major field of study, awards, honors, degree conferred.

• Past and present participation in officially recognized sports and activities, physical factors of athletes (height and weight), date and place of birth.

Students may request the withholding of Directory Information by notifying the Office of the Registrar in writing, specifying the areas to be withheld, within ten (10) calendar days from the first scheduled day of the term. Ivy Tech will honor the request for one term only; therefore, the student must file the request on a term-by-term basis. The student should carefully consider the consequences of any decision to withhold any category of Directory Information. Regardless of the effect upon the student, Ivy Tech assumes no liability for honoring a student's request that such information be withheld. Failure on the part of a student to request the withholding of specific categories of Directory Information indicates the student's approval of disclosure.

In addition, student records are held in security by the College. Transcripts on file with the College from high schools and other institutions of higher education cannot be released by Ivy Tech. A student needing a transcript from high school or another college should request it directly from that institution.

The Registrar's Office will assist students wishing to see and review their academic records and student files. Any questions concerning the student's rights and responsibilities under the Family Educational Rights and Privacy Act should be referred to the Office of the Registrar..

DEPENDENCY PROVISION

Ivy Tech reserves the right, as allowed under the Federal Educational Rights and Privacy Act of 1974, to disclose educational records or components thereof, without written consent to parents of dependent students as defined according to the Internal Revenue Code of 1954 - Section 154 (as amended).

However, all Ivy Tech students will be assumed to be "independent." A certified copy of the parents' most recent Federal Income Tax Form establishing the student's dependency status shall be required before any educational records or components thereof will be released to the parent of any student. The student will be required to sign a Release of Information form.

ACADEMIC GRADING

The academic grading system has both grades and status codes. Grades reflect the quality of performance and level of competency achieved by students who complete a course. Formal grades will be assigned both in the middle of fall and spring semesters (at the discretion of the technical institute or major instructional center) and at the end of each enrollment period. Instructors determine and assign grades and status based on objective appraisal and evaluation of students' performances. Semester grade reports are sent to each student. The semester grade report is not sent to students who still owe fees.

In all courses, the quality of the student's work is important in determining the grade given. For some courses, quantity of work, speed of work, or both, are considered in determining the grade. Class participation may also be considered by instructors in awarding grades.

In certain instances, a status code will appear on the student's record in place of a grade. Status represents a condition to which no letter grade can be assigned.

Grades

The quality of student performance or competency level, as determined by the instructor at the completion of a course, is indicated by a letter grade of A, B, C, D, or F. Each designation has a numerical value per credit hour, referred to as Quality Points/Per Credit. The meaning and quality point value per credit hour of each letter grade are shown in the table below:

Grade Registration	Description	Quality Points
A	Excellent	4
B	Good	3
C	Average	2
D	Minimum passing	1
F	Failure	0

While Basic Skills Advancement courses are assigned these grade designation, no quality points or quality hours are generated.

Status Codes

Status codes describe the state or condition of a course appearing on the student's record that has not received a grade. Status code indications carry no grade points. The types of status codes and the symbols used to indicate them are shown below:

Status	Description	Quality Points
I	Incomplete	0
AU*	Audit	0
S **	Satisfactory	0
U**	Unsatisfactory	0
V +	Verified Competency	0
NW	No-Show Withdrawal	0
W	Withdrawal	0

* Must be declared no later than at the end of the first week of classes.

**Must be declared at time of registration.
+ Cannot be used to complete financial aid eligibility.
These non-grades are used for the following reasons:
I- Incomplete

"I" designations are received by students who have actively pursued a course and are doing passing work at the end of the course, but who have not completed the final examination and/or other specific course assignments. To remove an "I" designation, a student must meet with the instructor to make arrangements to complete the course work. The instructor must submit the grade within thirty (30) calendar days after the end of the term in which the student received the "I" designation. If an "I" status code is not converted within the aforementioned time, an "F" will be assigned. Students who have an "I" status on their record may not register in that specific course. However, if the "I" is changed to an "F", the student may then register only once for that course in order to earn a passing grade.

AU-Audit

Audit (AU) status indicates enrollment in a course for no grade or credit. The fees for audited courses are the same as those for courses taken for credit. Audit status must be declared no later than the end of the first week of classes with approval of the Instructor or Program Chairperson.

NW-No-Show Withdrawal

"NW" will be used for "No-Show" Withdrawals.

The instructor shall authorize the Registrar to withdraw a student from any course for which the student did not report to the class for the first two weeks of the term and failed to notify the instructor of intention to attend. This administrative action will be reflected on the official class list. No refund will be processed. A petition for a refund, with documentation for extenuating circumstances, may be filed at the Business Office.

Students can petition to be reinstated by receiving the approval of the instructor and completing the drop/add process.

W-Withdrawal

A "W" status code will be used for student and academic withdrawals. When students find it necessary to withdraw from a course(s), they must give formal notification to the Registrar at the College and complete appropriate forms. Student Withdrawal (W) is a terminal status, referring to voluntary student withdrawal by a student beginning at the start of the third week of the course up to the end of the week marking the completion of 75 percent of the course. To be considered officially withdrawn from a course, the student must file a withdrawal form at the Registrar's Office.

After 75 percent of the term has elapsed, a student may withdraw (with the same result as indicated above) only if documented extenuating circumstances are submitted to, and approved by, the Chief Administrative Officer or his/ her designee. The "W" status code designation will be entered on the student's academic records.

Instructors may also recommend that a student receive a "W" status code for student nonattendance in class or student disciplinary reasons, with final approval from the Chief Administrative Officer or his/her designee.

S-Satisfactory

The "S" indicates satisfactory completion of course work in situations where a status of either satisfactory or unsatisfactory (pass/fail) has been arranged by prior agreement by the Chief Administrative Officer or his/her designee. Requests for this type of grading—S/U—must be declared at time of registration.

U-Unsatisfactory

The "U" indicates unsatisfactory completion of course work in situations where a status of either satisfactory or unsatisfactory (pass/fail) has been arranged by prior agreement by the Chief Administrative Officer or his/her designee. Requests for this type of grading—"U"—can only be made for non-program

related courses and must be declared at time of registration. The "U" differs from an "F" in that quality points are not computed.

V-Verified Competency

The "V" indicates satisfactory completion of course work in situations such as test-out credit for experience or training, College Level Examination Program (CLEP) and so forth. Credit gained through this method may be used to satisfy degree requirements. This status is approved by the Chief Academic Officer upon recommendation of a faculty advisor, following completion of necessary verification and documentation of competency.

Students who wish to test out of a class should contact the program advisor before registering for the class. A fee may be charged for the tests.

The general guidelines for test-out are as follows:

1. Test-out examinations should be taken before registration for the class for which the test-out is attempted.
2. Test-out examinations should be taken and completed at one sitting unless the test is offered in two parts, i.e., lab and written exams.
3. Test-out examinations for specific courses are normally attempted only once.
4. Test-out credits are not included in credit computations for financial aid programs or student grade point average.
5. Courses that have been completed cannot be test-out of at a later date. Those courses must be retaken for academic credit.

Transfer Credit

Students can receive credit for courses transferred to Ivy Tech. Transfer credit is assigned following an evaluation of equivalence/relevance and is authorized providing the credits were

earned with grades of A, B, or C, from a regionally accredited instituion, and are not over ten (10) years old (unless the person has a degree). These credits will be included in earned hours and will appear at the beginning of the student's transcript. Although counted toward graduation, these credits are not used to calculate cumulative GPA. Final authority for Transfer Credit is with the Chief Administrative Officer, upon recommendation of the Department/Program head or Registrar.

It is the responsibility of all students having enrolled in twelve (12) or more attempted quality hours to have any earned credits from other colleges submitted for evaluation as transfer credit to the College's Registrar. Courses to be evaluated are to be submitted by midpoint of the first semester of enrollment or re-enrollment. Students are responsible for providing pertinent course descriptions and/or copies of the College catalog if further documentation is needed to facilitate the transfer credit review. This information will be entered on the students' records by the end of the semester the courses were submitted for evaluation.

Transfer students will be considered to be making Satisfactory Progress at the time of their transfer to the College.

CREDIT HOURS

Credit is described in semester hours (the number of credits taken per semester). The number of credits is determined by the demands of the course, course work and by the number of contact hours—the hours actually spent in the classroom or laboratory.

Credit Hours/Load

A credit hour represents at least one hour of lecture, two hours of laboratory or three hours of clinical instruction per week for the semester. A three credit hour lecture course, for example, meets 48 hours during the semester (3 X 16). An average full-time class load per semester in most Ivy Tech programs consists of 12-15 credit hours. To take a class load of more than 17 credit hours, a student must have the

approval of the Chief Academic Officer or his/her designee.

Enrollment Status

Enrollment status is determined by registered total semester credits:

Full-time student: 12 or more credits per semester

3/4 time: 9-11 credits per semester

1/2 time: 6-8 credits per semester

Less than 1/2 time: 1-5 credits per semester

A first-year student, by definition, is one who has completed fewer than 30 semester credit hours; a second-year student is one who has completed 30 or more semester credit hours.

Quality Points

Quality points are numerical values indicating the quality of student performance in credit courses: A=4; B=3; C=2; D=1;F=O. The quality points earned for a course equal the quality point value times the number of credits. A student who earns an A in a 4-credit course earns 16 quality points: the quality point value (4) X the number of credits (4) = total quality points (16).

Grade Point Averages

Through Fall, 1987, GPA (or GPI) is obtained by dividing quality points by attempted hours. Attempted hours include all non-basic skills advancement courses graded A-F.

From Winter 1987 through Summer 1990, GPA is calculated by dividing quality points by earned hours. The earned hours include all non-basic skills advancement courses graded A-F.

Beginning Fall, 1990, GPA is calculated by dividing quality points by quality hours. Quality Hours include all non-basic skills advancement courses graded A-F.

(Earned Hours include all credits that can be applied toward a degree objective. Attempted Hours include all formally enrolled hours.)

Before Fall, 1985, Ivy Tech -Central Indiana included courses that related and contributed to the approved educational objective, and

included basic skills advancement course in the GPA. Beginning Fall, 1985, all course except skills advancement courses are included in the GPA without regard to program or Regional Campus. GPA will reflect only the highest grade achieved in any course that the student may have taken more than once.

Under extenuating circumstances, a student may petition the Academic Status Committee to exclude up to fifteen (15) semester hours of course work from the cumulative GPA calculation. Course statistics that are excluded from the cumulative GPA calculation as a result of a petition will not be counted as earned and cannot be used to satisfy requirements for degree declared students. Petition forms may be obtained from the Office of the Registrar.

Improving a Grade

Students, with the approval of faculty advisors, may attempt to improve D or F grades by repeating courses (allowable once in most programs). Financial Aid recipients, however, should review their situations carefully since payment for repeated courses can be disallowed. Permanent student records contain complete files on all activity. The student's grade point average will reflect the highest grade earned.

Dean's List

The Dean's List, prepared and published each semester, gives recognition to students who achieve a minimum 3.50 grade point average or higher with no D or F grades while earning twelve (12) or more credits during the semester or eight (8) or more semester credit hours for the summer session..

Grade Reports

Final grades are mailed to the address on the registration form. Grade reports are not sent if there are outstanding financial obligations to the College.

Attendance

Regular attendance is expected at scheduled class meetings or

other activities assigned as part of a course of instruction. Attendance records are kept by instructors.

If personal circumstances may occasionally make it impossible to attend scheduled classes and activities, the College expects the student to confer with instructors in advance when possible. Instructors can offer students the option of making up the material missed. When circumstances are unforeseen, students should consult with instructors to arrange make-up work, if possible.

Absences may be considered by instructors in awarding grades and considering involuntary withdrawal. Students who must interrupt their Ivy Tech training to fulfill Reserve and National Guard annual tour requirements should present official military orders to their instructors prior to departure for duty. Students are not excused from completion of the course work and should make arrangements with their instructors to complete all work.

STANDARDS OF PROGRESS

Ivy Tech has established this Academic Policy in three parts: Part I - Academic Standards; Part II - Satisfactory Progress for Financial Aid; Part III - Appeal of Standards of Progress.

PART I: ACADEMIC STANDARDS

Students who have declared a certificate or degree objective and who have fifteen (15) or more cumulative credit hours attempted must maintain a 2.00 minimum cumulative grade point average (GPA) to be considered in satisfactory academic standing. Students who have difficulty maintaining the appropriate minimum cumulative GPA must see their faculty advisors or consult the Office of Counseling for advice and assistance.

Students who do not achieve the minimum cumulative GPA (2.00 cumulative GPA for 15 or more semester quality hours earned) at the end of each term of enrollment are not meeting the College's Standards of Progress. If a student has a GPA of under 2.00 after completing six or more credit hours, he/she will be selected for Academic Monitoring for the following term. A student selected for Academic Monitoring

must meet with his/her department chairperson when selecting courses for the following term. If the student does not achieve a 2.00 cumulative GPA by the time he/she completes fifteen credit hours, he/she will be placed on Academic Probation.

A student who does not achieve the minimum cumulative GPA (2.00 cumulative GPA for 15 or more semester quality hours earned) at the end of each term of enrollment will be placed on Academic Probation for the following term. Students will be able to enroll for that first term on Academic Probation with the understanding that they must raise their cumulative GPA to meet the minimum cumulative GPA by the end of that term.

Students failing to meet Standards of Progress during a term, including Academic Monitoring or Academic Probation, will be subject to specific enrollment restrictions including monitoring/probation registration for the following term. A student who is not meeting Standards of Progress is: restricted to enrollment in no more than twelve (12) semester hours of new course credits and no-more than a maximum total of fifteen (15) semester hours during any probationary term in the College. If enrolling for more than twelve (12) semester hours in regular semester credits, a student will be required to repeat a course or courses in which he/she received a grade of D or F in lieu of new course work.

Failure to meet Standards of Progress for one semester or term may result in the following: A) Required attendance at special counseling sessions; B) Enrollment in Basic Skills Advancement courses; or C) Disqualification for graduation. Students on Academic Probation who do not meet Standards of Progress and who do not improve by the end of the first term of Academic Probation shall not be allowed to register for the following term. "No improvement" means the student has not achieved the applicable minimum cumulative GPA required in accordance with this Academic Standards Policy or has not successfully earned at least six quality credit hours and attained a 2.00 or better term GPA for the probationary term. Students attaining a 2.00 term GPA for the probationary term will be allowed to enroll but will remain on Academic Probation until attaining the minimum cumulative GPA required in accordance with this Academic Standards

Policy. Following the term of non-enrollment, a student may re-enroll as a degree/certificate seeking student with an Academic Probation status. A student will be terminated from the College for up to five years if prevented from enrolling twice on an Academic Probation status.

Students who are not allowed to register at one of the sites may not register at any of the other sites; however, they may petition for re-admission at the site which they originally attended. The re-admission petition may be approved for good and sufficient reason by the College's Academic Status Committee. A student is identified as maintaining Standards of Progress when he/she successfully earns at least six quality credit hours and re-establishes a 2.00 cumulative GPA. Students receiving financial aid must demonstrate satisfactory progress toward completion of a program within a specified time frame, based on their enrollment status. Also, students must successfully complete the minimum number of credit hours required for that status each semester. Questions regarding minimum time frame and status should be directed to the Office of Financial Assistance. All students are expected to maintain a cumulative 2.00 GPA for graduation eligibility. Questions on maintaining standards of progress and academic standing should be addressed to the Office of Admissions.

Special Problems

After discussing the problem with an instructor or counselor, if it still seems unresolvable, the student needs to see the coordinator or program chairperson or department chairperson. If for some reason the problem cannot be resolved at that level, then the student needs to see a Student Services Manager or Divisional Chairperson. After discussion with a Student Services Manager or Divisional Chairperson, if the matter is still not resolved, the student should contact the Dean of Instructional Affairs or Director of Student Services. The student may be directed to follow the appeals process.

Part II: Satisfactory Progress for Financial Aid
In order to maintain Satisfactory Progress, a student must meet the

following standards:

1. Qualitative Standards of Progress

Be in good academic standing by earning at least a 2.00 GPA after attending Ivy Tech for a minimum of four semesters or attaining fifteen (15) or more quality hours, whichever comes first. Students on Academic Probation must raise their cumulative GPA to 2.00, or must receive a 2.00 term GPA (taking six quality hours or more), by the end of the Probationary term or financial aid will be denied.

2. Quantitative Standards of Progress

Complete the number of credits required for program completion within a specified time frame. Completion of credits is defined as earning one of the following grades: A, B, C, or D.

Quantitative Standards of Satisfactory Progress are measured in two ways: 1) by the number of credits completed each term and 2) by program completion within the maximum time frame allowed.

Each term, in order to maintain Satisfactory Progress, a student is required to complete the number of credit hours indicated for his/her enrollment status.

All students receiving federal and/or state financial aid will be required to complete their programs within the following term and maximum time frames.

A student who does not earn the minimum credit hours required for his/her enrollment status at the end of his/her first term or at the end of any term immediately following a term of Satisfactory Progress, shall be placed on Probation for the next term. During this Probation term, financial aid eligibility may be continued. However, a student who does not remove his/her Probation status by the end of this first

probationary term shall be considered as failing to make Satisfactory Progress. Unless he/she successfully appeals this determination, he/she shall be ineligible for financial aid for the next term of enrollment.

1. Number of Credits Completed

Enrollment Status

The following designations are used to determine a student's term enrollment status:

Full-Time	12 or more semester credit hours
Three-Quarter Time	9-11 semester hours
Half-Time	6-8 semester hours
Less than Half-Time	1-5 semester hours

Term Progress

Each term, the aid recipient must complete at least-the minimum number of credit hours depending on his/her enrollment status for that term. This includes Basic Skills Advancement courses.

Enrollment Status	Minimum Required Number of Completed Credits per Term
Full-Time	9
Three-Quarter Time	6
Half-Time	4
Less Than Half-Time	All Hours Attempted

Maximum Time Frame

A student is expected to complete all requirements for an Associate Degree or Technical Certificate within the maximum allowable time frame. The following chart shows the maximum allowable time frames for all programs.

Program	Attempted Semester Hours for Maximum Time Frame (Excluding Basic Skills Advancement Courses)
Technical Certificate	74
Associate Degree	99

If a student reaches the maximum number of hours attempted for calculating maximum time frame, and the student has not completed his/her declared course of study, termination of financial aid will occur regardless of changes from one course of study to another. Reinstatement of aid would take place only if the student completed a course of study and subsequently enrolled in a course of study leading to another degree or certificate. In cases where a student is attempting to complete a subsequent course of study, all hours previously earned which apply toward that subsequent course of study will be counted toward the maximum time frame for that degree or certificate.

Financial Aid will be Denied:

1. In those terms following completion of the total maximum time frames.
   Total maximum time frames include all terms of enrollment during which students are not making Satisfactory Progress and/or are not receiving financial aid.

2. In any term(s) within the maximum time frame following the first probation term in which Satisfactory Progress was not achieved.
   Financial Aid may be granted for up to thirty (30) credit hours of enrollment in Basic Skills Advancement courses. Educationally-disadvantaged students accepted in an eligible program will be able to enroll in Basic Skills Advancement courses (not counted toward the TC, AS, or AAS degree) in

order to ensure their future academic good standing.
Regaining Eligibility for Financial Aid Standards of Progress

Students who are denied financial aid as a result of failure to maintain Satisfactory Progress will regain their eligibility if any of the following conditions are met:

1. Enroll at least half-time at his or her own expense and receive at least a 2.00 term GPA while meeting the Quantitative Standards of Progress. The student will regain financial aid eligibility and will be on probation status the following term.

2. Enroll at his or her own expense and raise his or her cumulative GPA to a 2.00 or higher while meeting the Quantitative Standards of Progress. The student will regain financial aid eligibility and will be in good standing the following term.

3. Students who have been terminated from financial aid, are within their maximum time frame, and return to Ivy Tech after an absence of twelve (12) or more consecutive months will be on Probationary Status during their first term of re-enrollment and may receive financial aid.

Part III: Appeal Procedure

Academic Appeal

Guidelines, procedures and forms for an appeal because of academic problems are available through the Dean of Instructional Affairs office.

Financial Appeal

After discussion of the situation with the Manager of Financial Assistance, students will be directed to file an financial appeal with the Financial Assistance Appeals Committee.

GRADUATION

The Associate of Science degree, the Associate of Applied Science degree, or Technical Certificate is awarded by the College to students who meet graduation and certification eligibility requirements. Graduation ceremonies are held at least once a year. Graduating students are charged a fee to cover the cost of the ceremonial cap and gown.

A student is considered eligible for graduation when the requirements for graduation and certification have been fulfilled at the selected program level. **Each student entering the final semester of training prior to graduation will complete an Application for Graduation form.** The application will be certified by the student's program advisor and forwarded to the Registrar's Office, where the appropriate diploma will be prepared.

The student must meet all of the following graduation requirements in order to graduate with Associate of Applied Science Degree or Technical Certificate.

> 1. Attain a grade index of 2.0 in the required technical and general education courses, with not more than one course in each of these areas at a "D" or lower performance level.
>
> 2. Successfully complete all courses within certification requirements with a grade point index of 2.0.
>
> 3. Earn the last 15 credits as a regular student of Ivy Tech, rather than by test-out or other means of advanced placement. Students can petition the Chief Academic Officer because of extenuating circumstances.
>
> 4. Complete successfully the Ivy Tech certification requirements.
>
> 5. Satisfy all financial obligations to the College.

Note: An accumulation of credits outside a course of study does not necessarily constitute credits towards a degree/certificate.

STUDENT SUPPORT SERVICES

Career Counseling

The Offices of Admissions and Counseling at Ivy Tech-Central Indiana offers career counseling to all interested students. Students may obtain individual counseling and/or assessment to assist them in identifying their abilities or occupational interests. Counseling and assessments are also helpful in developing realistic education and career plans and occupational outlook data. Students are encouraged to seek assistance in selecting an occupation and the necessary materials by contacting the Office of Admissions.

In addition to the counseling program offered by the Office of Admissions, the College utilizes a faculty advisor system. On admission, each degree student is assigned a faculty advisor, whose purpose is to:

1. assist the student in course selection and program planning;
2. guide the student in meeting the requirements for graduation as prescribed by the College;
3. insure that appropriate technical and general education electives are included in the chosen course of study.

Placement

Candidates for graduation who desire placement assistance should contact the Office of Placement Services, which will:

1. advise candidates of the College placement services;
2. distribute registration forms for the placement service;
3. provide occupational information, including employment trends and local and state occupational outlook data;
4. assist the registered candidate in preparing a packet of credentials for use in finding a job. The packet may include:
a. a resume of the candidate's education and employment experience;
b. personal letters of recommendation verifying the student's employability;

5. create folders containing original copies of the candidate's credentials for all registered candidates;

6. prepare copies of credentials released by the candidates for referral to prospective employers. Alumni may update their credentials whenever they wish to use the placement service.

Students registered with the Placement Office will be informed of employment. Employers who register with the Placement Office are given the names of all qualified candidates without regard to sex, race, age, national origin, or handicap. Registered students are eligible for interviews with appropriate prospective employers.

Library

The library at each region is called the Learning Resource Center (LRC). New acquisitions are carefully selected to augment the needs of the students in the technologies offered and for the skills advancement program.

Special features of the LRC include career exploration materials, interlibrary loans, periodicals both general and technical in focus, leisure reading offerings, and audio-visual materials and equipment. Basic Skills Advancement centers are located in the North Meridian Center on second floor.

College Bookstore

The College maintains a bookstore where students may buy textbooks and supplies. College sweaters, jackets, souvenirs, and other items may also be available for purchase.

Child Care Center

Ivy Tech-Indianapolis has an on-campus Child Care Center to meet the need of adult students, College staff and faculty, and locally employed parents and guardians. This licensed center provides on-site training opportunities for practicum students in the Child Development and other Human Services and Health Technologies programs. This model facility is licensed to serve 60 children, ages 2 to 12, from 6:30 a.m. to 10:00 p.m., Monday through Thursdays and until 6:00 p.m. on Friday. Note: Hours could vary, depending upon enrollment.

The center is open to visitors interested in either the Child Development Program in the Child Care Center services except during naptime, which is 12:30 to 2:30 p.m. daily. Visitors should check with the Center Manager upon arrival.

Cafeteria

Ivy Tech has a full-service cafeteria open on the first floor of the Technology Center.

STUDENT ORGANIZATIONS

Organizations and Activities

The College recognizes the educational, recreational, and social values of student organizations and extracurricular activities which complement the institution's academic programs. Students are encouraged to participate in any or all phases of the student activities program as long as participation does not interfere with studies.

All student organizations operate under the policies and guidelines set for the College by the State Board of Trustees. Approval by the Student Senate and the administration is required of all student organizations seeking to make use of the College facilities. All approved organizations must be open for membership to all eligible candidates and must make available to the Student Senate all records of officers, membership, and financial transactions.

Student Senate

Students in each region are provided opportunities to participate in student government through membership in the Student Senate. The Student Senate is the representative governing body of the students. Student Senate representatives are elected or selected according to the bylaws of each regional Student Senate constitution and serve as stated in those bylaws.

The student body membership may consist of representatives of the first-year class, the second-year class, each program area and an advisor as established in the bylaws.

The Student Senate was established by students to encourage participation in student government and to promote College spirit and

recognition. The Student Senate exercises the authority, unless otherwise delegated, to legislate on student matters, subject to the approval of appropriate College administrative offices.

The constitutions of all student organizations must be approved by a quorum of the Student Senate, consisting of a simple majority of the total membership and one staff advisor, or as otherwise stated in the bylaws.

The functions of the Student Senate include:

1. communication of bona fide concerns of the student body and suggestions for improvement to appropriate College officials;

2. approval of those student organizations deemed beneficial to student life and worthy of being a part of the College;

3. assurance that copies of the constitution, bylaws, and statement of purpose and objectives of each recognized student organization are on file in the Office of Admissions;

4. referral of student grievances concerning disciplinary matters or student status to the Committee on Student Status; referral of other types of student grievances to appropriate College officials;

5. planning and conducting of all appropriate extracurricular student activities;

6. submission of student activity budgets for review and approval by the regional administration.

Intramural Sports

College sports activities consist of intramural sports sponsored by the Student Senate. Leagues can be formed when student interest justifies their organization. All sports activities of the College must be approved and sponsored by the Student Senate and the administration.

Class Organizations

The primary purpose of class organizations is to promote classwide social activities and sports functions. Each first-and second-year class may elect a class president, vice-president, secretary-treasurer, class reporter, and representatives-at-large for the Student Senate. Class

organizations must be sponsored by the Student Senate.

Clubs

Students wishing to organize hobby, social, or special interest clubs should submit proposals to the Student Senate, which will determine whether sufficient interest exists to form or continue a club. The Student Senate is authorized to charter the club upon approval by the administration. Each club must have the following elected officers: president, vice-president, secretary-treasurer, club reporter, and a Student Senate representative. Each club must also have a staff advisor.

Social Activities

All group activities of the College must be approved and sponsored by the Student Senate and the administration. Classes, clubs, and other groups should plan and conduct social activities pertaining specifically to their members.

The Student Senate organizes and conducts social activities and gatherings in which all students and their guests may participate.

Professional and Trade Societies

Student chapters of various professional and trade societies will be formed in the same manner as other student organizations and are subject to the same requirements.

Housing

While Ivy Tech is a commuter campus and does not operate residence halls, the Office of Admissions and Counseling may be able to answer questions concerning housing.

Ivy Tech accepts no responsibility for locating, approving, or supervising local student housing.

Student Parking

As of Spring Semester 1991, students will need to register their motor vehicles. Some campuses will require a parking sticker from the cashier's office. A special permit is required to park in the handi-

capped zone. Stickers are to be displayed in the vehicle while it is parked on campus and students are expected to park only in designated student parking areas. Vehicles improperly parked in areas reserved for the handicapped, visitors, or others may be towed away at the owner's expense.

Student Insurance

For students registered in credit courses at Ivy Tech, the College provides insurance in a designated amount for injuries sustained while participating in College-sponsored activities. The activity must take place on College premises or on any premises designated by the College. Students are also covered while traveling to and from college-sponsored activities as a member of a group under College supervision.

It is the student's responsibility to report injuries promptly to the instructor or to Security. The insurance is for a specified minimum amount of coverage. It is not intended to replace insurance coverage students may already have. It is suggested that students review their own coverage.

The Master Policy for this insurance is issued to Indiana Vocational Technical College and is on file at the office of the Director of Personnel Services at College Central Offices. The description of the hazards insured, benefits, and exclusions is controlled by the Master Policy. Should students have questions, they may contact the regional Office of Admissions.

An insurance company offers health insurance to Ivy Tech students. Insurance coverage is purchased directly from the insurance company by the student. Application forms and brochures explaining coverage and rates are available through Student Services during course registration periods. Coverages and rates are subject to change.

Emergency Closing of Campus

It is possible that severe weather conditions or other emergencies will make it necessary to close a campus. Ivy Tech-Central Indiana has designated local radio station WIBC to announce information on closings.

STUDENT RIGHTS AND RESPONSIBILITIES

Standards of Conduct

Students enrolled at Indiana Vocational Technical College are expected to conduct themselves in a mature, dignified, and honorable manner. The reputation of the College in the community depends in large part upon the behavior of its students. Students are subject to College jurisdiction on College matters while enrolled at Ivy Tech. The College reserves the right to take disciplinary action against any student whose conduct, in the opinion of Ivy Tech representatives, has not been in the best interests of other students or the College. Disciplinary action may consist of verbal reprimand, restitution for damages, restriction of privileges, suspension, or dismissal. Students, in turn, have the right of due process.

All Ivy Tech students are expected to abide by the following College rules of conduct.

College Rules

1. POSSESSION OR INFLUENCE OF ALCOHOLIC BEVERAGES: Indiana Vocational Technical College prohibits the possession, sale or consumption of alcoholic beverages on campus; or the unauthorized possession or consumption of alcoholic beverages at off campus activities. Any student found guilty of drinking, being under the influence of, or possessing intoxicating beverages on College property is subject to disciplinary action and state law.

2. ILLEGAL USE OF DRUGS: The illegal use of drugs is strictly prohibited on Ivy Tech property or at any College related activity. Any student found using, under the influence of, in possession of, or distributing illegal drugs is subject to disciplinary action, probation, suspension, or expulsion and

state law. Ivy Tech, through is policies and programs is dedicated to providing an atmosphere that encourages: The reinforcement of the positive, drug free elements in life; respect for laws and rules prohibiting illegal drugs; an understanding of the effects of drugs, including alcohol, personal health and safety; and the value of sound personal health and safety.

3. SMOKING: Students may smoke in private offices, conference rooms, and other areas as designated by the Vice President/Chancellor. Smoking is generally prohibited in carpeted areas and in posted "No Smoking" areas, in accordance with fire regulations and consideration for campus environment.

4. ASSEMBLY: Persons shall not assemble in a manner that obstructs the free movement of others about the campus, inhibits the free and normal use of the College buildings and facilities, or prevents or obstructs the normal operations of the College.

5. SIGNS: Students may not erect signs on campus or display signs or posters, except on designated bulletin boards, without the authorization of the Vice President/Chancellor or designee. Also, students shall not deface, alter, tamper, destroy, or remove any sign or inscription on College property.

6. SOLICITATION OF FUNDS: No student or student organization may use campus facilities or schedule activities to solicit funds without the approval of the Vice President/ Chancellor or designee.

7. ARMS/DEADLY WEAPONS/ FIREWORKS, EXPLOSIVE CHEMICALS OR DEVICES: Firearms (except for those possessed by police officers) and deadly or destructive devices or weapons are strictly prohibited on College property or at any College-sponsored activity held elsewhere. Any student possessing deadly weapons or destructive devices at these locations is subject to disciplinary action.

8. CHEATING: Any student found cheating on papers or tests is subject to disciplinary action. Such action may be taken in accordance with College procedures as deemed necessary by the instructor.

9. COUNTERFEITING AND ALTERING: Students shall not alter, in any manner, shape, or form, any record, document, or form or identification used or maintained by the College.

10. THEFT OF PROPERTY: Any theft of personal or College property will be treated as a violation of College rules.

11. VANDALISM: The destruction or mutilation of College books, magazines, equipment, or buildings is prohibited. Such action may result in restitution, replacement of equipment and/or other disciplinary measures.

12. USE OF COLLEGE FACILITIES: Students are permitted on campus during normal College hours and at other times established in the College calendar. Students wishing to utilize College facilities at other times must request permission from the Vice President/Chancellor or designee.

13. FINANCIAL RESPONSIBILITY: Students owing fees, fines, or loans shall not be permitted to register for a succeeding session. Grades, records, degrees, etc., will not be awarded until debts to the College are paid.

14. MISUSE OF MOTOR VEHICLES: The College has established student, staff, and visitor parking areas. All persons are required to park in their respectively designated areas and to adhere to College parking regulations. Posted speed limits must be obeyed.

15. HARASSMENT: Any student harassing (including sexual harassment) students or staff will face disciplinary action.

16. PHYSICAL OR VERBAL ALTERCATIONS OR ABUSES: No student may strike or threaten other students or College personnel or disrupt or interfere in any way with the educational process of other students or the College staff.

17. DISCRIMINATION ACTIVITIES: Any student involved in any discrimination activity towards students or staff will face disciplinary action.

18. DISRUPTIVE ACTIONS: Any actions which are disruptive of the normal, orderly and peaceful operation of the College.

19. GAMBLING
20. HAZING
21. USE OF INDECENT OR ABUSIVE LANGUAGE
22. UNAUTHORIZED OF COLLEGE NAME
23. LEWD OR INDECENT CONDUCT
24 VIOLATION OF LOCAL ORDINANCES OR OF STATE OR FEDERAL LAWS
25. FURNISHING FALSE INFORMATION WITH INTENT TO DECEIVE
26. REPEATED OFFENSES OF A LESS SERIOUS NATURE

Violations

The College maintains jurisdiction over matters such as, but not limited to, alcoholic beverages, illegal use of drugs, motor vehicles, assembly, soliciting, use of College facilities, the posting or erection of signs, theft, arms/deadly weapons, and vandalism, physical or verbal altercations or abuses, and/or discrimination activities.

The College attempts to protect students from those who might violate laws and ordinances. Local, state, or federal law enforcement officials will be notified if anyone violating local, state or federal laws. Violators shall be subject to prosecution by the appropriate law enforcement officials.

Anyone found in violation of College regulations shall be subject to disciplinary action by the College through due process procedures for student conduct violations. The regulations and due process procedures will be placed for reading and review in the Ivy Tech-Central Indiana Learning Resource Center. Copies will be available through the Office of Admissions and Counseling.

DUE PROCESS PROCEDURES FOR STUDENT CONDUCT VIOLATIONS

Due Process provides the College an appropriate mechanism to deal with violation of student conduct and conversely allows a student with a disagreement to grieve against a College personnel's decision affecting that student. The intent of due process is to provide a process

or procedure for unbiased review of a particular case or situation. **The intent, rather than the mechanism, is the focus of this process. Thus, exceptions to the specifics and mechanisms can and will be made.**

1. Cases or appeals of student misconduct and/or lack of academic integrity are to be referred to the appropriate designee of the Vice President/Chancellor or to the Chair of the Student Status Committee for evaluation. This College representative:

1a. will be responsible for all initial disciplinary procedures;

b. may recommend temporary suspension of a student to the Vice President/Chancellor for a period of time until the Student Status Committee can meet.

c. may recommend to the Vice President/Chancellor (on recommendation of the instructor) that a student be withdrawn from a course or program or from the College for disciplinary reasons.

2. Students recommended for dismissal will be notified by their advisors in writing. Students will be given an opportunity to appeal the decision of the Student Status Committee if they so choose.

3. The Student Status Committee deals with all cases relating to disciplinary actions or the academic status of students. Each regional institute has a Student Status Committee that makes recommendations to the Vice President/Chancellor.

• The Student Status Committee will be composed of at least six members, including two full-time instructional staff members and two administrative staff persons appointed by the Vice President/Chancellor of the region. The additional two members will be students designated by the Student Senate. The Committee's review and subsequent disposition of a formal complaint will begin no later than thirty (30) days after receipt of the written complaint. Staff legal counsel, as needed, will be available to the Committee.

• The Student Status Committee will assure the student due process. A written statement will be presented to the student

by the chairman of the Student Status Committee. The student will be invited to speak on his or her own behalf.

• The Student Status Committee will issue a recommendation to the Vice President/Chancellor following its deliberation. Disciplinary probation or dismissal from the college will be final only after review by the Vice President/Chancellor, who may approve or disapprove the recommendation of the Student Status Committee. Students dismissed for disciplinary reasons will not be entitled to refunds.

• The student will be informed in writing of the decision of the Student Status Committee and of the subsequent recommendations to the Vice President/Chancellor, whose decision is final. All of the written recommendations from the committee will be filed in the student's folder in the Office of Admissions.

• If the student disagrees with the Student Status Committee recommendation, he or she may file a complaint with the regional Vice President/Chancellor within 72 hours after notification of the Student Status Committee's decision.

• Exceptions to these rules may be made in extenuating circumstances at the discretion of the Vice President/Chancellor or his designee upon request by the involved.

Student Grievances

Students may bring legitimate grievances to the attention of their instructors, counselors other advisors. Time will be provided for a grievance conference within two weeks of the complaint. The purpose of the conference is to discuss the problem and to find, if possible, a mutually satisfactory resolution. If the grievance concerns an instructor or an advisor, the student may request a conference with a department head, divisional chairperson, the Dean of Instruction or the Director of Student Services, as deemed appropriate. The conference will be held within two weeks of notice of the complaint.

The student who feels his or her grievance has not been adequately addressed by these methods may follow a prescribed grievance procedure by requesting a hearing by the Student Status Committee.

1. The Student Status Committee will be composed of at least six members, including two full-time instructional staff members and two administrative staff persons appointed by the Vice President/Chancellor. The additional two members will be students designated by the Student Senate. The Committee's review and subsequent disposition of a formal complaint will begin no later than thirty (30) days after receipt of the written complaint. Staff legal counsel, as needed, will be available to the Committee.

2. The Student Status Committee will assure the due process. A written statement will be presented to the student by the chairman of the Student Status Committee. The student will be invited to speak on his/her own behalf.

3. The chairperson of the Student Status Committee will notify the student and necessary staff in advance of the meeting of the Student Status Committee (and the written grievance) within one week, unless waived by the student or committee chairperson by mail (preferably registered).

4. The Student Status Committee will issue a recommendation the Vice President/Chancellor who will make a final decision in the grievance process.

5. All parties involved will be informed in writing of the decision of the Student Status Committee and of the subsequent recommendations of the Vice President/Chancellor, whose decision is final.

6. If the student disagrees with the Student Status Committee recommendation, he/she may file a complaint with the regional Vice President/Chancellor within 72 hours after notifications of the Student Status Committee's decision.

7. Exceptions to these rules may be made in extenuating circumstances at the discretion of the Vice President/Chancellor or his designee upon request by the party involved.

Business, Office and Information Systems Technologies

Career opportunities in business and office environments are expanding rapidly for those who have the technical skills to meet the demands. Programs offered through this Division of Business, Office and Information Systems Technologies provide education to students to successfully meet the needs of Indiana business employers. Contact the Admissions Office at 921-4800 for specific course and program offerings.

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Divisional Program/Specialty Chart

Administrative Services Department

Accounting Technology (AAS)

Administrative Office Technology (AAS)

Computer Programming Technology (AAS)

Information/Data Management (AAS)

Paralegal (AAS)

Management Services Department

Business Management (AAS)

Culinary Arts (AAS)

Distribution Management (AAS)

Hotel/Restaurant Management (AAS)

Industrial Supervision (AAS)

Marketing Technology (AAS)

ACCOUNTING TECHNOLOGY

The Accounting Technology program develops an understanding of accounting principles, business law, communications, microcomputers, and related areas of study in the field. Technical skills in financial accounting, cost accounting, and tax preparation are included in the program.

Typical duties in accounting include maintaining journals and ledgers, processing banking transactions, billing, preparing payroll, maintaining inventory records, purchasing, processing expense reports, preparing financial statements, and analyzing managerial reports. Position titles may include junior or staff accountant, junior auditor, cost accounting clerk, bookkeeper, payroll clerk, inventory clerk, accounts receivable clerk, accounts payable clerk, and financial management trainee.

The Division of Business, Office and Information Systems Technologies offers an Accounting Technology program that leads to an Associate of Applied Science degree.
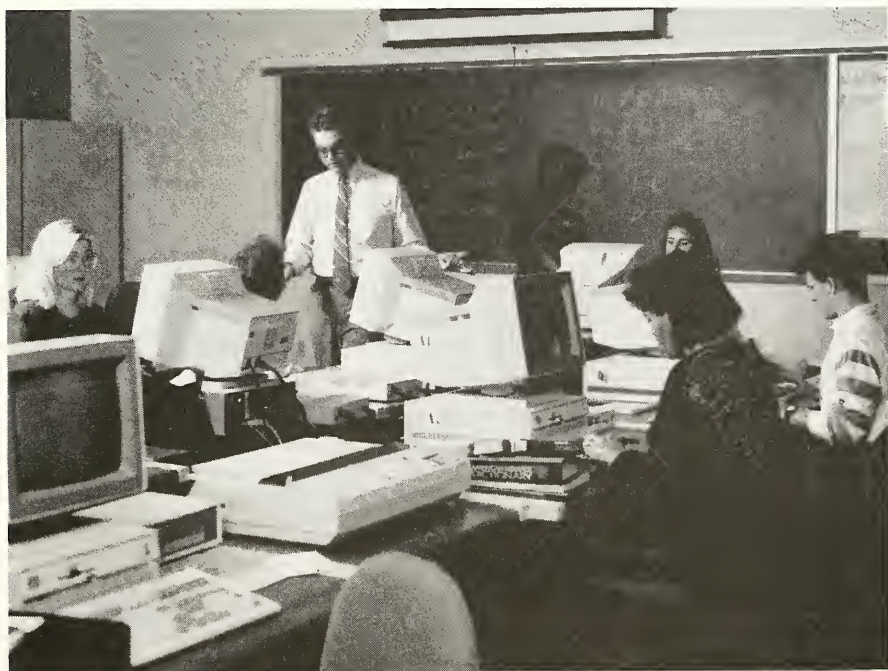
AAS/Technical Core Courses   (27 Credits)

ACC	101	Accounting Principles I	3
ACC	102	Accounting Principles II	3
BUS	102	Business Law	3
ACC	105	Income Tax I	3
ACC	201	Intermediate Accounting I	3
ACC	202	Intermediate Accounting II	3
ACC	203	Cost Accounting I	3
INF	202	Electronic Spreadsheets in Business	3
INF	101	Introduction to Microcomputers	3

AAS/General Education Courses   (15 Credits)

MAT	107	Math of Finance	3
ENG	101	English Composition I	3
ENG	103	Speech	3
SOC	101	Human Relations	3
SOC	107	Principles of Microeconomics	3

AAS/Regional Courses   (22 Credits)

May select from:

ACC	109	Personal Finance	3
BUS	201	Principles of Management	3
IST	102	Techniques of Supervision	3
SEC	205	Business English for Information Processors	3
SEC	212	Microcomputer Word Processing (Word Perfect)	3
SEC	101	Basic Formatting (Typing I)	3
BUS	101	Introduction to Business	3
ACC	220	Special Applications Lab I (Program Chairperson's Signature required for this class)	1
SEC	113	Office Calculating Machines	1
CPT	101	Data Processing Fundamentals	3
INF	102	Microcomputer Operating Systems	3
INF	201	Microcomputer Database Management Systems	3

Students may select other courses with the approval of the program advisor.

Total AAS Credits   64

ACCOUNTING TECHNOLOGY COURSE DESCRIPTIONS

ACC 101 - ACCOUNTING PRINCIPLES I

3 Credits - Introduces the fundamental principles, techniques, and tools of accounting. The mechanics of the accounting cycle include collecting, recording, summarizing, analyzing, and reporting of information pertaining to service and mercantile enterprises. Internal control, deferred charges, notes and interest, valuation of receivables, payrolls, inventories, and plant assets are also covered.

ACC 102 - ACCOUNTING PRINCIPLES II

3 Credits

Continues the study of accounting to include partnership and corporate accounting systems. Financial statements including the cash flow statement are prepared and analyzed. Topics covered include long-term liabilities and investments. Cost, managerial, branch and nonprofit accounting techniques may be introduced. Prerequisite ACC 101.

ACC 105 -INCOME TAX I

3 Credits

Offers an overview of federal income tax law for individuals including: taxable income, capital gains and losses, adjustments, standard and itemized deductions, tax credits and appropriate tax forms. Also introduced are tax concepts needed as a sole proprietorship.

ACC 108 - CAREER ESSENTIALS OF ACCOUNTING

3 Credits

This course is an introduction to the basic principles of accounting as utilized in a variety of office settings. The course includes principles of debit and credit, double entry bookkeeping, use of journals and analyzing transactions. Uses of ledgers, posting procedures, petty cash, banking procedures, payroll, depreciation, work sheets, balance sheets, and income statements are covered as well.

ACC 109 - PERSONAL FINANCE

3 Credits

Examines the process of setting and achieving financial goals. Emphasizes financial management, budgeting for current expenses, projected cash flow and management of short and long-term credit. Includes use of insurance to reduce risks and vehicles for saving and investing.

ACC 111 - ACCOUNTING PRINCIPLES LAB I

1 Credit

Presents a series of planned accounting learning problems and activities to accompany concepts and theories included in an accounting principles course. The touch method of numeric input on a calculator may be introduced, and some computerized problems may be included.

ACC 112 - ACCOUNTING PRINCIPLES LAB II

1 Credit

This course presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in the Accounting Principles II course. Computerized problems may be used.

ACC 201 - INTERMEDIATE ACCOUNTING I

3 Credits

Studies accounting principles and applications at an intermediate level pertaining to the income statement and balance sheet, cash and short-term investments, receivables, inventories, plant assets and intangible assets. Included are analysis of bad debts, inventory valuation, repairs and maintenance, depreciation of plant assets and present value applications. Prerequisites ACC 101, 102.

ACC 202 - INTERMEDIATE ACCOUNTING II

3 Credits

Continues studies of Intermediate Accounting I and includes long-term investments, current and contingent liabilities, long-term debt, stockholders and analysis, statement of cash flows and financial statement analysis. Also included are corporate capital and treasury stock transactions, dividends, earnings per share, accounting for income taxes, corrections of errors and creation of financial statements from incomplete records. Prerequisite ACC 201.

ACC 203 - COST ACCOUNTING I
3 Credits
Examines the manufacturing process in relation to the accumulation of specific cost of manufactured products. Various cost accounting report forms, material, labor control, and allocation of manufacturing costs to jobs and departments are studied. Prerequisite ACC 101.

ACC 205 - SEMINAR IN ACCOUNTING
1 Credit
Allows accounting students to pursue (a) specific area(s) of interest at a more advanced level in Accounting. Prerequisite ACC 101.

ACC 207 - ACCOUNTING FOR GOVERNMENT AND NON-PROFIT ENTITIES
3 Credits
This course will emphasize the similarities and differences between government and nonprofit and commercial accounting methods and procedures. The student will be exposed to the basic fund accounting cycle for the general fund and other special funds. Prerequisites ACC 101, 102 and ACC 201, 202.

ACC 209 - AUDITING
3 Credits
Covers public accounting organization and operation, including internal control, internal and external auditing, verification and testing of the balance sheet and operating accounts and the auditor's report of opinion on the financial statements. Prerequisites 201, 202.

INF 202 - ELECTRONIC SPREADSHEETS IN BUSINESS
3 Credits
Provides instruction in the use of all modules of a spreadsheet software package including spreadsheet, graphics, and database operations, applying these modules to business problems. Prerequisite INF 101.

ACC 219 - COST ACCOUNTING LAB
1 Credit

This course presents a series of planned accounting problems and activities designed to accompany concepts and theories included in Cost Accounting I. Computerized problems may be used. Prerequisite ACC 101.

ACC 220 - SPECIAL APPLICATIONS LABORATORY 1
1 Credit

This course presents a series of planned accounting learning problems and activities designed to accompany cncepts and theories included in an accounting course. Computerized problems may be used. Prerequisite ACC 101 and ACC 102.

ACC 222 - ACCOUNTING SOFTWARE APPLICATIONS
2 Credits

Accounting problems will be solved using software similar to software currently being used in business. Planned learning activities will include installation, operation and analysis of an accounting software package. Prerequisite ACC 101, 102.

ACC 298 - FIELD STUDY/COOPERATIVE EDUCATION
3 Credits

The student will work at a job site that is specifically related to his/her career objectives. The course will be a field project within the framework of actual work experience in accounting.

ADMINISTRATIVE OFFICE TECHNOLOGY

The Administrative Office Technology program prepares students for an office environment which is becoming automated and will approach the electronic office predicted for the future. Students develop not only the basic, traditional office skills, but also skills using technology such as computer hardware, software, and other electronic equipment.

The program is designed to accommodate students with different levels of training and experiences. Courses are offered which provide initial, advanced, and refresher education and which assist individuals in achieving professional recognition and career progression. The Associate of Applied Science degree program prepares graduates as administrative office workers and provides opportunities for specialized training in such areas as legal secretarial, medical secretarial, office management, stenography, and information/word processing. Students who complete the recommended sequence of courses are eligible to take the Administrative/Information Processing Specialist (AIPS) or the Certified Professional Secretary (CPS) exam administered by the Institute for Certifying Secretaries of the Professional Secretaries International Association (PSI). Career Development Certificates are also available in specialized areas.

(Also see Medical Secretary program sheet.)

AAS/Technical Core Courses   (33 Credits)
*Technical Certificate   (18 Credits)

*SEC	101	Basic Formatting	3
*SEC	102	Document Management	3
SEC	103	Information/Word Processing Concepts	3
*SEC	104	Document Production	3
SEC	201	Specialized Formatting/Transcription	3
SEC	202	Information/Word Processing Applications	3
SEC	203	Principles of Office Management	3
*SEC	204	Administrative Office Procedures	3
*SEC	205	Business English for Information Processing	3
ACC	101	Accounting Principles I	3
*INF	101	Introduction to Microcomputers	3

ASS/General Education Requirements   (15 Credits)
*Technical Certificate   (6 credits)

*ENG	101	English Composition I	3
ENG	102	English Composition II	3
*MAT	107	Math of Finance	3
SOC	101	Human Relations	3
SOC	107	Principles of Microeconomics	3

AAS/Regional Courses   (17 Credits)
*Technical Certificate   (8 credits)

May select from:

*SEC	212	Microcomputer Word Processing	3
SEC	108	Shorthand I	3
SEC	111	Shorthand II	3
*SEC	113	Office Calculating Machines	1
SEC	206	Shorthand II	3
SEC	112	Data Entry	3
SEC	216	Practicum/Internship	3
ACC	102	Accounting Principles II	3
INF	202	Electronic Spreadsheets	3
INF	102	Microcomputer Operating Systems	3

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INF	202	Electronic Spreadsheets	3
INF	102	Microcomputer Operating Systems	3
INF	206	Integrated Business Software	3
CPT	101	Data Processing Fundamentals	3
**BUS	102	Business Law	3

(*SEC 212 and 113 are required regional electives for Technical Certificate.)

(**Bus 102 is a required regional elective for an associate degree.)

Students may select other courses with the approval of the program advisor.

Total AAS Credits	**65**
***Total Technical Certificate Credits**	**32**

ADMINISTRATIVE OFFICETECHNOLOGY COURSE DESCRIPTIONS

SEC 100 - KEYBOARDING

3 Credits

An introduction to keyboarding. Emphasis is on mastery of the keyboard and developing basic keyboarding skills.

SEC 101 - BASIC FORMATTING

3 Credits

This course develops keyboarding competencies. Emphasis is placed on increasing keyboarding speed, improving accuracy, developing formatting skills, applying communication skills, and learning document production skills.

SEC 102 - DOCUMENT MANAGEMENT

3 Credits

Designed to acquaint students with alphabetic, numeric, geographic, and subject filing procedures. Exposure to the latest equipment, automation and the newer methods of managing, storing and retrieving records. Role of the file worker and place of document management within the overall business enterprise is emphasized.

SEC 103 - INFORMATION/WORD PROCESSING CONCEPTS

3 Credits

Introduction to the concept of information/word processing systems. Offers hands-on experience in the operation of word processing systems. Prerequisite SEC 101 or typing speed of 30 wpm.

SEC 104 - DOCUMENT PRODUCTION
3 Credits

Provides experience producing documents found in business offices. Major focus is on productivity and excellence in document production. Also emphasizes composition skills and the application of communication skills. Prerequisite SEC 101 or typing speed of 40 wpm.

SEC 106 - REFRESHER SHORTHAND
1 Credit

Designed to bring old, unused shorthand skills to an employable level. Taught in a lab setting emphasizing three areas of skill development: speed, theory, and transcription.

SEC 108 - SHORTHAND/NOTETAKING I
3 Credits

Introductory course emphasizing basic theory, brief forms, and speed in reading from notes and the textbook. Focuses on the correct way to write shorthand. Dictation with emphasis placed on writing and transcription techniques.

SEC 110 - KEYBOARDING SKILL DEVELOPMENT
1 Credit

This course is designed to bring old, unused typing skills to an employable level. Emphasizes speed and accuracy improvement through drills on the typewriter and/or personal computer.

SEC 111 - SHORTHAND/NOTETAKING II
3 Credits

Develops dictation, notereading, and transcription skills through drills and tests. Emphasizes speed, accuracy, and use of correct English. Reinforces and builds on principles and skills learned in Shorthand/Notetaking 1.

SEC 112 - DATA ENTRY
3 Credits

Prepares for employment in data entry or related data processing positions in an up-to-date computerized business. Basic keyboarding skills and experience with typical applications and a variety of data entry techniques. Prerequisite typing speed of 40 wpm.

SEC 113 - OFFICE CALCULATING MACHINES
1 Credit

Designed for the acquisition of competence on the 10-key electronic printing/display calculator. Competence on the desk calculator and familiarity with the types of business problems commonly solved on them are essential elements of the course.

SEC 114 - INTRODUCTION TO TYPEWRITING
2 Credits

An introduction to keyboarding and typewriting. Emphasizes keyboard mastery and the ability to type easy copy and perform simple typing exercises.

SEC 115 - INTRODUCTION TO MICROCOMPUTER KEYBOARDING
2 Credits

A course for beginners in keyboarding on the microcomputer. Covers the development of fundamentals: touch keyboarding techniques, familiarization with keyboard including numbers, introduction of major parts of computer, and skill measurement.

SEC 201 - SPECIALIZED FORMATTING/TRANSCRIPTION
3 Credits

Production techniques which include correspondence, business forms, manuscripts, tabulation, and secretarial projects. Correct use of grammar, spelling, and letter formats is stressed, along with a high degree of productivity and skill. Transcription from machine dictation and introduction to products, services, and terminology encountered in business organizations. Prerequisite SEC 104.

SEC 202 - INFORMATION/WORD PROCESSING APPLICATIONS
3 Credits

Knowledge acquired from Information/Word Processing Concepts will be further enhanced as more sophisticated features of a word processing package are learned and applied. Prerequisite SEC 103 or equivalent.

SEC 203 - PRINCIPLES OF OFFICE MANAGEMENT
3 Credits

Covers a broad range of topics including: hiring practices, supervision, motivation, decision-making, time, space, and environment management. The course also includes: basic management principles, problem solving techniques, selecting, orienting and supervising human resources, motivating workers, labor/management relations, office personnel problems and practices, managing office systems and improving productivity.

SEC 204 - ADMINISTRATIVE OFFICE PROCEDURES
3 Credits

Emphasizes skills, techniques and attitudes businesses desire in office personnel. Provides experience applying skills and knowledge gained in previous technical courses. Identifies professional standards of conduct and appearance necessary to successfully work in the business environment. Prerequisite SEC 101.

SEC 205 - BUSINESS ENGLISH FOR INFORMATION PROCESSING
3 Credits

Basic grammar, punctuation, spelling, proofreading, and other language skills needed in information processing. Prerequisite: typing speed of 25 wpm.

SEC 206 - SHORTHAND/NOTETAKING III
3 Credits

Review of fundamentals learned in Shorthand/Notetaking 1 & 2. Continued emphasis on skill in taking new matter dictation with more emphasis on transcribing mailable letters. Essentials of good English principles are stressed.

SEC 207 - INTEGRATED OFFICE AUTOMATION
3 Credits

Designed to be the culmination of the student's word processing studies. After a complete overview of word processing principles and applications, the student will obtain experience integrating this knowledge with various software packages to solve problems in the electronic office. Development of critical thinking skills is emphasized.

SEC 208 - MICROCOMPUTER/WORD PROCESSING
2 Credits

Covers production techniques including typing, formatting, editing, and printing variable output, and use of the electronic dictionary. Includes production applications such as merging letters with mailing lists, math computations during document creation, sorting files, printout of newsletters, and other multiple-column formats.

SEC 209 - ADVANCED MICRCOMPUTER/WORD PROCESSING
2 Credits

Techniques for maximizing the operating speed and convenience of a word processing software. Topics include macros, styles, tables, math, equation editor, multiple-column formats, desktop publishing and other supplementary programs integrated with the software.

SEC 211 - WORD PROCESSING FILES MANAGEMENT
3 Credits

Designing and managing the file system, creating files, adding, revising and deleting files. Designed to demonstrate how to create, use, change, and update files on a word processing system or personal computer using a database software.

SEC 212 - MICROCOMPUTER WORD PROCESSING
3 Credits

Deals with business application uses of word processing software on microcomputer work stations. Practical applications in the use of a microcomputer word processing software. Prerequisite INF 101 or equivalent and typing speed of 30 wpm.

SEC 214 - DESKTOP PUBLISHING
3 Credits

Provides computer skills in the production of camera-ready materials through electronic publishing.

SEC 216 - PRACTICUM/INTERNSHIP
3 Credits

Students gain on-the-job experience while earning college credits toward an associate degree.

SEC 281 - 293 - SPECIAL TOPICS IN SECRETARIAL SCIENCES TECHNOLOGY
1-5 Credits

ADMINISTRATIVE OFFICE TECHNOLOGY
Medical Secretary-Specialty

In addition to the usual secretarial duties, the medical secretary serves as a liaison between the doctor and patient and is important in building and maintaining good relations with the patients. Entry level positions are found in doctors' offices, clinics, hospitals, and other health related organizations.

Many secretaries will find that they can upgrade their job skills by taking just a course or two. Other students will find that they can open the door to an entirely new career as a medical secretary by pursuing Ivy Tech's Technical Certificate in Secretarial-Medical. This program will take the full-time student approximately one year to complete. Still other students will find it beneficial to pursue courses from the College's Administrative Office Technology Program along with their Secretarial-Medical courses.

Technical Core			(20 Credits)
SEC	101	Basic Formatting	3
SEC	102	Document Management	3
SEC	205	Business English for Information Processing	3
MEA	101	Medical Terminology	3
MEA	111	Medical Typing and Transcription	3
MEA	204	Administrative Office Management	3
MEA	201	Medical Word Processing and Machine Transcription	2

General Education Requirements			(6 Credits)
ENG	101	English Composition I	3
MAT	107	Math of Finance	3

Regional Courses			(6 Credits)
May select from:			
SEC	108	Shorthand I	3
SEC	111	Shorthand II	3
SEC	113	Office Calculating Machines	1
SEC	202	Information Word Processing Apl.	3
SEC	103	Information Word ProcessingConcepts	3
INF	202	Electronic Spreadsheets	3
MEA	115	Medical Insurance	3
SCI	113	Anatomy and Physiology I	3
SCI	115	Anatomy and Physiology I	3
Total Technical Certificate Credits			**32**

MEDICAL SECRETARY COURSE DESCRIPTIONS

MEA 101 - MEDICAL TERMINOLOGY
3 Credits

Addresses basic terminology required of the allied health professional. Greek and Latin prefixes are presented, as well as suffixes, word roots, and combining forms. Emphasis is on forming a solid foundation for a medical vocabulary including meaning, spelling, and pronunciation. Medical abbreviations, signs, and symbols are included. It also includes desirable personality traits, interpersonal relationships and attitudes within the medical office.

MEA 111 - MEDICAL TYPING AND TRANSCRIPTION
3 Credits

Focuses on improving typewriting ability in the medical field, including transcription with emphasis on production, speed and accuracy. Course includes formatting, typing, and transcription of articles, medical reports, case histories, and correspondence using medical terminology.

MEA 115 - MEDICAL INSURANCE
2 Credits

An overview of medical insurance problems with skills developed in handling insurance forms, CPT and ICD-9-CM Coding, and reports as applied to the medical office.

MEA 201 - MEDICAL WORD PROCESSING/TRANSCRIPTION
2 Credits

Advances skills and knowledge of medical dictation, machine transcription, and use of word processing. Includes typing medical reports, terminology, and correspondence.

MEA 204 - MEDICAL OFFICE MANAGEMENT
2 Credits

An in-depth study of various influences on office functions providing a background for organization and management of a physician's office. Includes government and professional sources for consultation.

SEC 101 - BASIC FORMATTING
3 Credits

This course develops keyboarding competencies. Emphasis is placed on increasing keyboarding speed, improving accuracy, developing formatting skills, applying communication skills, and learning document production skills.

SEC 102 - DOCUMENT MANAGEMENT
3 Credits

Designed to acquaint students with alphabetic, numeric, geographic, and subject filing procedures. Exposure to the latest equipment, automation and the newer methods of managing, storing and retrieving records. Role of the file worker and place of document management within the overall business enterprise is emphasized.

SEC 108 - SHORTHAND/NOTETAKING I
3 Credits

Introductory course emphasizing basic theory, brief forms, and speed in reading from notes and the textbook. Focuses on the correct way to write shorthand. Dictation with emphasis placed on writing and transcription techniques.

SEC 111 - SHORTHAND/NOTETAKING II
3 Credits

Develops dictation, notereading, and transcription skills through drills and tests. Emphasizes speed, accuracy, and use of correct English. Reinforces and builds on principles and skills learned in Shorthand/Notetaking 1.

SEC 113 - OFFICE CALCULATING MACHINES
1 Credit

Designed for the acquisition of competence on the 10-key electronic printing/display calculator. Competence on the desk calculator and familiarity with the types of business problems commonly solved on them are essential elements of the course.

SEC 115 - INTRODUCTION TO MICROCOMPUTER KEYBOARDING
2 Credits

A course for beginners in keyboarding on the microcomputer. Covers the development of fundamentals: touch keyboarding techniques, familiarization with keyboard including numbers, introduction of major parts of computer, and skill measurement.

SEC 205 - BUSINESS ENGLISH FOR INFORMATION PROCESSING
3 Credits

Basic grammar, punctuation, spelling, proofreading, and other language skills needed in information processing.   Prerequisite: typing speed of 25 wpm.

BUSINESS MANAGEMENT

The Business Management program develops the ability to apply the managerial skills needed for self employment and/or for general administrative positions in a variety of business operations. These business opportunities may include retailing/wholesaling, manufacturing, service industries, and business administration.

A two-year program, requiring 64 credits leads to an Associate of Applied Science Degree.

ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

AAS/Technical Core Courses (34 Credits)

BUS	101	Introduction to Business	3
BUS	102	Business Law	3
IST	102	Techniques of Supervision	3
MKT	101	Principles of Marketing	3
BUS	201	Principles of Management	3
BUS	202	Human Resource Management	3
BUS	203	Entrepreneurship	3
BUS	204	Case Problems in Management	3
MKT	202	Logistics/Purchasing Control	3
Electives: See advisor.			7

AAS/General Education Courses (18 Credits)

ENG	101	English Composition I	3
ENG	103	Speech	3
MAT	101	Algebra I or	
MAT	107	Math of Finance	3
SCI	XXX	Life and Physical Science Elective	3
SOC	101	Human Relations	3
SOC	107	Principles of Microeconomics	3

AAS/Related Education (6 Credits)

ACC	101	Accounting Principles I	3
ENG	102	English Composition II	3

AAS/Regional Courses (6 Credits)

May select from:

BUS	208	Organizational Behavior	3
INF	101	Introduction to Microcomputers	3
IST	211	Labor Relations	3
INF	206	Integrated Business Software	3
HUM	102	Ethics	3

Students may select other courses with the approval of the program advisor.

Total AAS Credits **64**

BUSINESS MANAGEMENT COURSE DESCRIPTIONS

BUS 101 - INTRODUCTION TO BUSINESS
3 Credits

Examines our business system in relation to our economic society. Studies business ownership, organization principles and problems, management, control facilities, administration, and development practices of American business.

BUS 102 - BUSINESS LAW
3 Credits

Describes the Judicial system and the nature and sources of law affecting business. Studies contracts, sales, and negotiable instruments with emphasis on Uniform Commercial Code applications. Includes appropriate remedies for breach of contract and tort liabilities. Examines business structures and agency.

BUS 201 - PRINCIPLES OF MANAGEMENT
3 Credits

Focuses on the functions of managers, including the management of activities and personnel. Focus is placed on application of guidance principles in management work.

BUS 202 - HUMAN RESOURCE MANAGEMENT
3 Credits

Overview of the activities of human resource manager with emphasis on employer-employee relations, job analysis and evaluation, salary administration, work measurement and standards, performance appraisal, and legal compliance.

BUS 203 - ENTREPRENEURSHIP
3 Credits

Explores business operations for the self-employed or as a manager employed in a small business enterprise.

BUS 204 - CASE PROBLEMS IN MANAGEMENT
3 Credits

Applies business concepts and principles to specific case studies or problems. Prerequisites: 15 credit hours, Business Management.

MKT 101 - PRINCIPLES OF MARKETING
3 Credits

Introduces the marketing role in society and how it affects the marketing strategies, with emphasis on the marketing mix, product planning, and the effects of the demographic dimension on the consumer market.

MKT 202 - LOGISTICS/PURCHASING
3 Credits

This course introduces the student to purchasing logistics, customer services, materials management, and the physical distribution of goods.

ACC 101 - ACCOUNTING PRINCIPLES I
3 Credits

Introduces the fundamental principles, techniques, and tools of accounting. The mechanics of the accounting cycle include collecting, recording, summarizing, analyzing, and reporting of information pertaining to service and mercantile enterprises. Internal control, deferred charges, notes and interest, valuation of receivables, payrolls, inventories, and plant assets are also covered.

COMPUTER PROGRAMMING TECHNOLOGY

The two-year Computer Programming Technology program leads to an Associate of Applied Science degree. It provides the student with a minimum of five programming courses in two (2) languages and information in the areas of data processing principles, operating systems, systems analysis and design, business programming application, data communications and problem solving techniques. Additionally, the program offers instruction in effective written, oral, and interpersonal communications.

The curriculum provides an integrated study of the theory and practice of data processing for business, industry, and other applications. Laboratory activities using a variety of equipment emphasize programming and software applications and hands-on experience. A practical hands-on teaching/learning approach develops the skills needed in the workplace. The program is directed toward preparing the computer information systems technician most commonly sought by businesses. It also provides resources for those individuals who wish to pursue selected courses only in conjunction with another program of study or for the purpose of job upgrading.

The Associate of Applied Science degree program requires 64 credits for completion. Career Development Certificates are also available in specialized areas.

ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

AAS/Technical Core Courses   **(33 Credits)**

CPT	101	Data Processing Fundamentals	3
CPT	102	Introduction to COBOL Programming	3
CPT	103	Logic and Documentation	3
CPT	104	Operating Systems	3
CPT	201	Advanced COBOL Programming	3
CPT	202	Data Communications	3
CPT	203	Systems Analysis and Design	3
CPT	204	Systems Development with High-Level Tools	3

ACC	101	Accounting Principles I	3
BUS	101	Introduction to Business	3
INF	101	Introduction to Microcomputers	3

AAS/General Education Requirements (15 Credits)

ENG	101	English Composition	3
ENG	103	Speech	3
SOC	101	Human Relations	3
SCI	101	Physical Science	3
MAT	109	Finite Math	3

AAS/Regional Courses   (16 Credits)

Required Courses (6 Credits)

| CPT | 107 | Basic Programming Language | 3 |
| CPT | 210 | Assembler Language Programming | 3 |

Regional Courses   (10 Credits)

May select from:

CPT	106	UNIX Operating Systems	
CPT	205	Database Design	3
CPT	206	Cobol III	3
CPT	208	RPG Programming Fundamentals (RPG 400)	3
CPT	209	C Programming	3
CPT	216	Advanced RPG Programming (RPG 400)	3
CPT	217	CICS Command Level Programming	3
CPT	218	Advanced Assembler Language	3
CPT	215	Field Study (Prior Approval Required)	4
ACC	102	Accounting Principles II	3
BUS	102	Business Law	3
INF	102	Microcomputer Operating Systems	3
INF	201	Microcomputer Database Management Systems	3
INF	202	Electronic Spreadsheets	3
BUS	201	Principles of Management	3

Students may select other courses with the approval of the program advisor.

Total AAS Credits   64

COMPUTER PROGRAMMING TECHNOLOGY COURSE DESCRIPTIONS

CPT 101 - DATA PROCESSING FUNDAMENTALS
3 Credits

Introduction to data processing and programming, with emphasis on hands-on computer experience. Examines the role of data processing in an organization including: data processing applications, computer hardware and software, internal data representation, stored program concepts, systems and programming design, flowcharting, and data communications.

CPT 102 - INTRODUCTION TO COBOL PROGRAMMING
3 Credits

An introduction to COBOL (Common Business Oriented Language) with emphasis on developing structured programming skills. Develops proficiency in applying the programming development cycle to elementary business problems. Prerequisite CPT 101.

CPT 103 - LOGIC AND DOCUMENTATION
3 Credits

Presents structured techniques for the efficient solution of business related computer programming logic problems. Includes program flowcharting, pseudocoding, and hierarchy charts as a means of solving these problems. Documentation procedures include creating file layouts, print charts, program narratives, user documentation, and system flowcharts for these business problems. Prerequisite CPT 101.

CPT 104 - 0PERATING SYSTEMS
3 Credits

A study of computer operating systems, purposes, structure and various functions. Covers comprehensive sets of language translators and service programs, operating under supervisory coordination of an integrated control, which form the total operating system of a computer. Prerequisite CPT 101.

CPT 105 - PRACTICAL COMPUTER OPERATIONS
3 Credits

Demonstrates workstation and minicomputer operations including peripheral devices. Information is given on entire data processing area including job responsibilities, standards and run manuals, message control functions, documentation and backup procedures. Prerequisite CPT 101.

CPT 106 - UNIX V OPERATING SYSTEM
3 Credits

Studies the UNIX V Operating System and its use as a powerful time-sharing operating system. Includes basic UNIX commands, use of the visual editor, the UNIX directory structure and file management with SHELL commands. Offers opportunities to apply skills and knowledge in a laboratory environment. Prerequisite CPT 101 or equivalent.

CPT 107 - BASIC PROGRAMMING LANGUAGE
3 Credits

Provides an introduction to the basic concepts of program design and programming using the BASIC programming language. BASIC is the primary language for use with microcomputers. Some topics included are: basic arithmetic operations, accumulating and printing totals, comparing, array processing and interactive programming. This course offers students an opportunity to apply skills in a laboratory environment. Prerequisite CPT 101or equivalent.

CPT 201 - ADVANCED COBOL PROGRAMMING
3 Credits

Continues topics introduced in Introduction to COBOL with more logically complex business problems. Develops a higher level of COBOL proficiency as well as a greater familiarity with techniques and the structured approach through class instruction and laboratory experience. Prerequisite CPT 102.

CPT 202 - DATA COMMUNICATIONS
3 Credits

Introduces the concepts of data communications in order to build a foundation of knowledge on which to add the new technologies as they are developed. Prerequisite CPT 201.

CPT 203 - SYSTEMS ANALYSIS AND DESIGN

3 Credits

Provides instruction in creating or modifying a system by gathering details, analyzing the data, designing the system by creating solutions, and implementing and maintaining the system. Prerequisite CPT 202.

CPT 204 - SYSTEMS DEVELOPMENT WITH HIGH - LEVEL TOOLS

3 Credits

Analyzes established and evolving methodologies for the development of business-oriented computer information systems. Develops competencies in techniques that apply modern software tools to generate applications directly, without requiring detailed and highly technical program writing efforts. Prerequisite CPT 201.

CPT 205 - DATABASE DESIGN

3 Credits

Introduces program applications in a database environment with emphasis on modifying and querying the database by means of a host language (COBOL). Discusses data structures; indexed and direct file organizations; models of data, including hierarchical, network, and relational; storage devices, data administration and analysis; design; and implementation. Prerequisite CPT 201.

CPT 206 - COBOL III

3 Credits

Offers advanced study in COBOL programming, including programming with direct access devices and using the COBOL sort feature. Covers structured programming and documentation. Continues study of job control language. Prerequisite CPT 201.

CPT 208 - RPG II PROGRAMMING FUNDAMENTALS

3 Credits

Provides a general introduction to the RPG II programming language with emphasis on "hands on" experience. This course presents the most important features of the RPG II Language from input/output processing to applications requiring handling. Language concepts are introduced in class lecture and then applied by students in programming lab assignments. Prerequisite CT 101.

CPT 209 - "C" PROGRAMMING
3 Credits

This course provides a basic understanding of the fundamental concepts involved when using a low level development language. The emphasis is on logical program decision using a modular approach involving task oriented program functions. The role of data types, storage classes and addressable memory locations is thoroughly discussed. Since C is a language quite unlike anything most students have been exposed to, the philosophy of this course is to provide a sound foundation of fundamental concepts such as the C function and the proper use of pointers. Prerequisite CPT 101 or equivalent.

CPT 210 - ASSEMBLER LANGUAGE PROGRAMMING
3 Credits

This course will give the student a very basic understanding of the Assembler process using IBM mainframe computers. This course will stress the importance of byte-wise manipulation of data fields when using low level languages. The emphasis is on the actual workings of a computer during the execution of a computer program. The role of data types, EBCIDIC format of data storage and addressable memory locations is thoroughly discussed. Since Assembler is so vastly different from most languages that students are exposed to, the philosophy of this course is to provide a sound foundation of fundamental concepts associated with the assembler process. Prerequisite CPT 101 or equivalent.

CPT 211 - PASCAL PROGRAMMING
3 Credits

This course provides a basic understanding of the structured programming process necessary for successful Pascal programming. The major emphasis is program design and modularity, using Pascal procedures, functions and independent subprograms. Simple and advanced data types are discussed as well as program control aids, algorithm development and program debugging. The goal of this course is to provide the student with a fundamental understanding of good programming technique in a basic knowledge of Pascal syntax and structure. Prerequisite CPT 101 or equivalent.

CPT 215 - FIELD STUDY

4 Credits

Provides opportunity for a field project or research case study within the Computer Technology field. The project or study will include collection and analysis of data and/or actual work experience in business or industry. Prerequisite is the permission of program advisor.

CPT 216 - ADVANCED RPG II PROGRAMMING

3 Credits

Offers advanced study in the use of the compiler language RPG II in solving business problems. Attention is given to the various file processing methods and a working knowledge of advanced features and techniques through laboratory experience. Prerequisite CPT 208.

CPT 217 - CICS COMMAND LEVEL PROGRAMMING

3 Credits

Familiarizes the student with CICS Command Level Programming Language, its organization and use, the principles of data communication, and the incorporation of these principles in CICS. Students will write pseudo-conversational CICS programs, then test and debug these programs. Prerequisite CPT 206 or equivalent.

CPT 218 - ADVANCED ASSEMBLER LANGUAGE

3 Credits

Continues those topics introduced in Assembler Language Fundamentals with emphasis placed on table handling and disk programming techniques. Prerequisite CPT 210.

CPT 219 - ADVANCED CICS COMMAND LEVEL PRO-GRAMMING

3 Credits

Expands the student's knowledge of CICS Command Level programming language. Students will write pseudo-conversational CICS programs, then test and debug these programs. Prerequisite CPT 217.

CPT 220 - SHELL COMMAND LANGUAGE FOR PRO-GRAMMERS

3 Credits

This course teaches the student how to write, test and debug Shell procedures on a computer utilizing a UNIX operating system. Topics include: the Shell and how it works, shell processes, variables, keyword and positional parameters, control constructs, special substitutions, pipelines, debugging aids, error/interrupt processing and the shell command line. The course offers students the opportunity to apply skills in a laboratory environment. Prerequisite CPT 106.

CPT 221 - ADVANCED C PROGRAMMING

3 Credits

Continues those topics introduced in C Language Programming with emphasis on array processing, file processing and advanced debugging techniques. Students will have the opportunity to apply skills in a laboratory environment. Prerequisite CPT 209.

CPT288 - SPECIAL TOPICS IN COMPUTER PROGRAM-MING TECHNOLOGY

1-5 Credits

As a result of the Computer Integrated Manufacturing in Higher Education (CIM/HE) Alliance with IBM and the recent installation of an IBM AS/400- B50 Computer System several new AS/400 courses are planned. Examples: RPG-400, AS400 System Administration and AS/400 Cobol. Please contact Program Chairperson for further information.

CULINARY ARTS TECHNOLOGY

Ivy Tech offers a comprehensive Culinary Arts program which will familiarize students with culinary styles and food preparation techniques of both outstanding chefs and experienced instructors. The program will provide students with numerous opportunities for actual food preparation experiences.

The Culinary Arts program covers food, beverages, menu planning, ethnic food preparation, classical cuisine, and pastries. Special attention is given to center-of-the plate items with emphasis on the presentation of prepared food. It also focuses on nutrition, sanitation, personal hygiene and safety regulations.

A two-year Associate of Applied Science degree is offered. Career Development Certificates are also available in specialized areas.

This program is accredited by the American Culinary Federation Inc.

ASSOCIATE OF APPLIED SCIENCE DEGREE

AAS/Technical Core Courses   (55 Credits)

CUL	101	Basic Foods Theory and Skills	3
CUL	102	Sanitation and First Aid	2
CUL	103	Nutrition	2
CUL	104	Soups, Stocks and Sauces	3
CUL	105	Institutional Food Service	2
CUL	106	Pantry and Breakfast	3
CUL	107	Purchasing Procedures and Controls	2
CUL	108	Baking	4
CUL	109	Meat Cutting	3
CUL	201	Food and Beverage Cost Control	2
CUL	202	Special Cuisines	3
CUL	203	Table Service	3
CUL	204	Classical Pastries	3
CUL	205	Fish and Seafood	3
CUL	206	Externship	3
CUL	207	Catering	4
CUL	208	Garde Manger	3
CUL	209	Menu Design	2
CUL	210	Food Service Supervision	2
CUL	211	Classical Cuisine	3

AAS/General Education Requirements   (18 Credits)

INF	101	Introduction to Microcomputers	3
ENG	101	English Composition I	3
ENG	102	English Composition II	3
ENG	103	Speech	3
HST	115	Applied Behavioral Psychology or	
SOC	101	Human Relations	3
MAT	101	Algebra I or	
MAT	107	Math of Finance	3
Total AAS Credits			**73**

CULINARY ARTS TECHNOLOGY COURSE DESCRIPTIONS

CUL 101 - BASIC FOODS THEORY AND SKILLS
3 Credits

Fundamentals of food preparation service procedures, sanitation and safety practices in the food service business. Also provides a background and history of the hospitality industry and introduction to hospitality/food service organizations and career opportunities.

CUL 102 - SANITATION & FIRST AID
2 Credits

Develops understanding of basic principles of food service sanitation and safety in maintaining a safe and healthy environment for the consumer. Laws and regulations related to safety, fire, and sanitation.

CUL 103 - NUTRITION
2 Credits

Examines characteristics, functions, and food sources of the major nutrient groups and how to maximize nutrient retention in food preparation and storage. Nutrient needs throughout the life cycle and related applications of menu canning and food preparation.

CUL 104 - SOUPS, STOCK, SAUCES
3 Credits

Introduces the four major stocks, five major sauces, and the soups that are derived from them. Time will be given to help develop the necessary skill development in the fourteen major cooking methods. Prerequisites CUL 102 AND 101.

CUL 105 - INSTITUTIONAL FOOD SERVICE
2 Credits

Introduction to various institutional food service facilities. Includes recipes for quantity, food production, calculating per portion cost, converting, determining profitable selling prices. Prerequisite CUL 104.

CUL 106 - PANTRY AND BREAKFAST
3 Credits

Techniques and skills needed in breakfast cookery and knowledge of the pantry department. Preparation of eggs, pancakes, waffles, and cereals. Experience in salad prep, salad dressing, hot and cold sandwich prep, garnishes and appetizers. Prerequisites CUL 101 and 102.

CUL 107 - PURCHASING PROCEDURES & CONTROLS
2 Credits

Development and implementation of an effective purchasing program. Focuses on supplier regulations and selection, negotiation, and evaluation. In-depth examination of major purchase categories.

CUL 108 - BAKING
4 Credits

Fundamentals of baking science, terminology, ingredients, weights and measures, formula conversion and storage. Preparation of yeast food, pies, cakes, cookies and quick breads. Use and care of equipment. Sanitation, hygienic work habits and conformance to health regulations are emphasized. Prerequisite CUL 102.

CUL 109 - MEAT CUTTING
3 Credits

The study of meat cutting which includes the breakdown of beef, pork, poultry, lamb and veal. Prerequisites CUL 101 and 102.

CUL 201 - FOOD & BEVERAGE COST CONTROL
2 Credits

Mathematical principles applied to the food service industry. Development of skills in food related tasks.

CUL 202 - SPECIAL CUISINES
3 Credits

Introduction to foods from various cultures: historical background and skill development in preparation of these foods. Further study of table service and table-side food preparation is included. Prerequisites CUL 101, 102 and 104.

CUL 203 - TABLE SERVICE
3 Credits

Practical knowledge of and skills in various types of service in a variety of operations. Relationship between "front" and "back" of the house. Emphasis is on the service techniques of the major table service styles.

CUL 204 - CLASSICAL PASTRIES
3 Credits

Classic French, Italian and European desserts. Includes the preparation of foods such as puff pastry, specialty cookies, ganache, parlimose creams and fillings, and specialty sauces. Emphasis is on size, consistency, presentation, eye appeal and taste of pastries produced. Prerequisite CUL 108.

CUL 205 - FISH AND SEAFOOD
3 Credits

The importance of fish and seafood in today's market. Types and categories of American and imported fish and shell fish, proper preparation, and merchandising of fish and boning and methods of cooking appropriate aquatic dishes. Prerequisites CUL 101, 102 and 104.

CUL 206 - EXTERNSHIP
3 Credits

Offers students practical work experience in chosen areas of specialization. Students will be required to work a minimum of 144 hours in an approved hospitality establishment. Emphasis is on skills at the dishwasher, prep-cook, and station cook. (4th semester of classes.)

CUL 207 - CATERING
4 Credits

The fundamentals of catering: the business of supplying food, goods, and organized service for public and private functions. Includes staffing, equipment, transportation, contracting, special arrangements, beverage service, and menu planning. Also covers cold food preparation and presentation techniques. (4th semester of classes).

CUL 208 - GARDE MANGER

3 Credits

Basic garde manger principles and functions and duties of the garde manger department as they relate to other kitchen operations. Introduction to specialty work: ice carving, artistic centerpieces, and buffet decorations. Proper equipment and garde manger area planning. Prerequisites CUL 106 and 109.

CUL 209 - MENU DESIGN

2 Credits

Develops skill needed for menu planning in various types of facilities and service. Covers menu layout, selection and development, and pricing structures. Prerequisite CUL 109.

CUL 210 - FOOD SERVICE SUPERVISION

2 Credits

Designed to prepare the student for the transition from employee to supervisor, evaluation of leadership styles and development of effective skills in human relations and personnel management.

CUL 211 - CLASSICAL CUISINE

3 Credits

Advanced and sophisticated classical culinary methods following the principles and techniques of Escoffier. Includes cooking techniques, timing, presentation, history, and terms pertaining to classical foods and menus, with emphasis on French cuisine. Practical experience in table service operation, kitchen coordination and timing. Prerequisites CUL 202, 204 and 205.

CUL 288 - SPECIAL TOPICS IN CULINARY ARTS TECHNOLOGY

1-5 Credits

A Special Topics Course provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area (Contact Program Chairperson for more information).

DISTRIBUTION AND LOGISTICS MANAGEMENT

Distribution and Logistics Management prepares students for staff, first line or middle management positions in production control, physical distribution, purchasing, customer service, warehousing, transportation or planning and coordination functions dealing with the management, movement, storage, and control of materials. The major focus is on the integration of these activities and functions for cost effective and efficient operations.

ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

AAS/Technical Core Courses (30 Credits)

DSM	101	Distribution and Logistics	3
DSM	201	Transportation Systems	3
DSM	202	Warehousing	3
DSM	204	Case Studies	3
ACC	108	Career Essentials of Accounting	3
BUS	101	Introduction to Business	3
BUS	102	Business Law	3
BUS	201	Principles of Management	3
INF	101	Introduction to Microcomputers	3
INF	206	Integrated Business Software	3

AAS/General Education Courses (15 Credits)

ENG	101	English Composition I	3
ENG	102	English Composition II	3
ENG	103	Speech	3
MAT	107	Math of Finance	3
SOC	101	Human Relations	3

AAS/Regional Courses (15 Credits)

May select from:

MKT	101	Principles of Marketing	3
MKT	103	Principles of Retailing	3
BUS	204	Case Problems in Management	3
MAT	108	Statistics	3
IST	211	Labor Relations	3
IST	103	Industrial Safety I	3

Students may select other courses with the approval of the program advisor.

Total AAS Credits **60**

DISTRIBUTION MANAGEMENT COURSE DESCRIPTIONS

DSM 101 - DISTRIBUTION AND LOGISTICS
3 Credits

The foundation course for the study of the physical distribution of materials. Reviews basic physical distribution and logistics systems related to warehousing, materials handling, inventory control, order processing, and transportation.

DSM 201 - TRANSPORTATION SYSTEMS
3 Credits

Traffic and transportation management applied to rate negotiation, routing, risk and claims, expediting and tracing. Distinguishes between types of transportation operations, including rail, motor, water, air, and pipelines.

DSM 202 - WAREHOUSING
3 Credits

Examines the warehousing function and management system controls. Differentiates between the various inventory control systems. Reviews material handling methods for the preparation, placing, and positioning of materials to facilitate movement or storage. Focus is on computer utilization in warehousing and inventory control management.

BUS 101 - INTRODUCTION TO BUSINESS
3 Credits

Examines our business system in relation to our economic society. Studies business ownership, organization principles and problems, management, control facilities, administration, and development practices of American business.

BUS 102 - BUSINESS LAW
3 Credits

Describes the Judicial system and the nature and sources of law affecting business. Studies contracts, sales, and negotiable instruments with emphasis on Uniform Commercial Code applications. Includes appropriate remedies for breach of contract and tort liabilities. Examines business structures and agency.

BUS 201 - PRINCIPLES OF MANAGEMENT
3 Credits

Focuses on the functions of managers, including the management of activities and personnel. Focus is placed on application of guidance principles in management work.

ACC 108 - CAREER ESSENTIALS OF ACCOUNTING
3 Credits

This course is an introduction to the basic principles of accounting as utilized in a variety of office settings. The course includes principles of debit and credit, double entry bookkeeping, use of journals and analyzing transactions. Uses of ledgers, posting procedures, petty cash, banking procedures, payroll, depreciation, work sheets, balance sheets, and income statements are covered as well.

HOTEL/RESTAURANT MANAGEMENT

The hospitality industry is the third largest in the nation and, in Indiana, it ranks as the second largest. Ivy Tech's curriculum, with guidance from the American Hotel and Motel Association and the National Restaurant Association, has recognized this trend and has made a commitment to meet present and projected needs of the hospitality industry. The courses are shaped by input from hotel and restaurant management experts and prospective employers. Constant reviews of industrial changes have indicated that hands-on training is in great demand and Ivy Tech has structured its offerings to reflect those changes.

Ivy Tech endeavors to assist employers and employees in keeping abreast of changes in the industry. Education in courses ranging from administration and training to food and beverage control form a solid base of theoretical and practical knowledge. To keep the hospitality industry running smoothly, industry needs a wide variety of experienced personnel. This program is a two-time state award winner of the National Restaurant Association's "Award of Excellence in Food Service Education."

A two-year Associate of Applied Science degree requires 65 credits for completion.

ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

AAS/Technical Core Courses   (47 Credits)

HMM	101	Hospitality Organization and Administration	3
HMM	102	Sanitation and First Aid	3
HMM	103	Purchasing Procedures and Controls	2
HMM	104	Hospitality Law and Security	3
HMM	105	Hospitality Computer Systems	3
HMM	106	Food Production Principles	3
HMM	107	Organization and Human Resource Development	3
HMM	201	Layout and Design	3
HMM	202	Hospitality Marketing and Sales	3
HMM	203	Practicum	3
HMM	204	Food and Beverage Management	3
HMM	205	Front Office	3
HMM	206	Housekeeping	3
HMM	207	Food and Beverage Cost Controls	3
CUL	203	Table Service	3
ACC	101	Accounting Principles I	3

AAS/General Education Requirements   (18 Credits)

ENG	101	English Composition I	3
ENG	102	English Composition II	3
ENG	103	Speech	3
HST	115	Applied Behavioral Psychology	3
MAT	101	Algebra I	3
SOC	104	Introduction to Sociology	3

Total AAS Credits   **65**

HOTEL/RESTAURANT MANAGEMENT COURSE DESCRIPTIONS

HMM 101 - HOSPITALITY ORGANIZATION AND ADMINISTRATION

3 Credits

Analyzes management functions and responsibilities in administration, organization, communications, accounting, marketing, and human relations.

HMM 102 - SANITATION AND FIRST AID

3 Credits

Instruction in how to effectively manage sanitation to achieve high standards that will cause customers to return.

HMM 103 - PURCHASING PROCEDURES AND CONTROLS

2 Credits

Methods in the development and implementation of an effective purchasing program. Focuses on issues pertaining to supplier relations and selection, negotiation, and evaluation. Includes in-depth consideration of major categories of purchases.

HMM 104 - HOSPITALITY LAW AND SECURITY

3 Credits

Provides awareness of the rights and responsibilities that the law grants to, or imposes upon a hotel keeper, and illustrates the possible consequences of failure to satisfy legal obligations. Also examines the wide variety of security procedures and systems for guest protection and internal security for asset protection.

HMM 105 - HOSPITALITY COMPUTER SYSTEMS

3 Credits

An overview of the information needs of lodging properties and food service establishment. Addresses essential aspects of computer systems, such as hardware, software, and generic applications. Focuses on computer-based property management systems for both front and back office functions and on computer-based restaurant management systems for both service-oriented and management-oriented functions.

HMM 106 - FOOD PRODUCTION PRINCIPLES
3 Credits

Techniques and procedures of quality and quantity food production. Based upon principles of selection, composition, and preparation of the major food products. Includes an extensive set of basic and complex recipes for practice purposes.

HMM 107 - ORGANIZATION & HUMAN RESOURCE DEVELOPMENT
3 Credits

The assessment and analysis of training and non-training needs of organizations and personnel within the context of the basic evolution of a company. Also covers the systematic design of instruction, evaluation of training programs, and management of the training functions. Prepares an individual for the transition from employee to supervisor. Prerequisite HMM 101.

HMM 201 - LAYOUT AND DESIGN
3 Credits

Principles of selection, operation, and maintenance of equipment for hotels and restaurants. Covers materials, structural details, design, cost, performance and specifications.

HMM 202 - HOSPITALITY MARKETING AND SALES
3 Credits

Designed to provide students with basic knowledge and practical experience that will enable them to develop strategic marketing plans for various hotel properties.

HMM 203 - PRACTICUM
3 Credits

Provides students with practical work experience in chosen areas of specialization. Students are required to work a minimum of 144 hours under managers of selected hospitality establishments.

HMM 204 - FOOD AND BEVERAGE MANAGEMENT
3 Credits

Provides a basic understanding of the principles of food production and service management, reviewing sanitation, menu planning, purchasing, storage, and beverage management.

HMM 205 - FRONT OFFICE
3 Credits

A systematic approach to front office procedures, detailing the flow of business through a hotel, beginning with the reservation process and ending with billing and collection procedures within the context of the overall operation of a hotel. Examines front office management, the process of handling complaints, and concerns regarding hotel safety and security. Prerequisite HMM 105.

HMM 206 - HOUSEKEEPING
3 Credits

Provides an overview of the fundamentals of housekeeping management. Describes the management functions, tools, and practices required in modern lodging and institutional housekeeping departments.

HMM 207 - FOOD & BEVERAGE COST CONTROLS
3 Credits

Covers principles and procedures in an effective food and beverage control system, including standards determination, the operating budget, income and cost control, menu pricing, and computer applications. Prerequisite HMM 105.

HMM 208 - HOUSEKEEPING TECHNIQUES
3 Credits

The basic tools required in institutional housekeeping. Instruction in accepted cleaning techniques.

HMM 209 - APARTMENT MANAGEMENT
3 Credits

Examines the responsibilities of landlords and tenants in apartments, townhouses, condominiums, and other permanent rental properties. Includes study of small and large complexes, business and maintenance details, and roles of personnel in each setting.

HMM 210 - HOTEL SUPERVISION
3 Credits

Offers case problems in hospitality management. Students are expected to assess realistic situations that confront modern hospitality executives.

HMM 211 - FINANCIAL MANAGEMENT
3 Credits

Special applications of accounting principles to the hospitality industry. Includes business principles pertaining to food and lodging, methods of recordkeeping for creditors, owners, and government, and payroll control. Emphasis is on tax laws specific to the industry, expense control, and techniques of profitable management.

HMM 212 - INSTITUTIONAL MANAGEMENT
3 Credits

Management problems unique to institutions, including boarding schools, professional sports training camps, summer camps, hospitals, nursing homes, prisons, and facilities for retirement, mental health, and extended care. Develops awareness of basic common needs throughout the hospitality industry. Guest lectures and field trips to institutions highlight the study.

HMM 213 - PROPERTY MANAGEMENT
3 Credits

Covers all phases of property management including first impression, staffing, training, capital investments, cost analysis, rentals, and renovation.

HMM 214 - TOURISM
3 Credits

Provides comprehensive study of tourism principles, practices, and philosophies. Offers practical education in the business of tourism.

HMM 215 - HOTEL - MOTEL SEMINAR
3 Credits

Offers opportunities by means of guest lectures and group discussion to explore particular problems or topics of current interest.

HMM 216 - BASIC COOKING I
3 Credits

Lectures and demonstrations in the fourteen basic forms of food preparation.

HMM 217 - FISH AND SEAFOOD
3 Credits
Preparing hot and cold fish, crustaceans, shellfish, and mollusks. Includes baking, poaching, braising, sauteing, deep fat frying, broiling, grilling, and grating methods.

HMM 218 - MEAT PREPARATION
3 Credits
Basic methods of preparation for beef, veal, pork, lamb, poultry and game. Includes sauteing, broiling, grilling, stewing, simmering, poaching, boiling, and braising methods.

HMM 219 - MEAT 1
3 Credits
Focuses on meat identification as established by the National Association of Meat Purveyors. Demonstrates the cutting of carcasses into primal cuts and the breakdown of beef, lamb and pork.

HMM 220 - NATIONAL DISHES
3 Credits
Application of basic cooking methods and forms of preparing national dishes. Features the preparation of Swiss, French, German, English and American, Italian, Austrian, and other fine cuisine.

HMM 221 - BASIC COOKING II
3 Credits
Skill development in the preparation of bases, stocks, sauces, and soups.

HMM 223 - BUFFET CATERING
3 Credits
Advanced instruction in cold food preparation and presentation techniques: charcuterie, specialty canapes, hors d'oeuvres, appetizers, pates, galantines, chaud-froids, terrines, tallow and ice carving, aspics, mousses, cold sauces, vegetable carving, and food decoration. Covers food materials' utilization, buffet planning, layout, equipment, zoning, and services. Provides a practical approach to decorating platters for industrial and classical buffets. Students plan, prepare, present and serve a cold buffet.

HMM 2 24 - BLOWN AND PULLED SUGAR
3 Credits
Basic course for learning the fundamental techniques of sugar work which prepares culinarians to blow and pull sugar to create unique table decorations.

HMM 281-293 - SPECIAL TOPICS IN HOTEL/MOTEL MANAGEMENT TECHNOLOGY
1-5 Credits

INDUSTRIAL SUPERVISION TECHNOLOGY

The Industrial Supervision program prepares students for leadership responsibilities in first line, staff and middle management positions. Students learn how to develop goals and objectives, plan,

organize, staff, direct and control operations in industrial, government and business environments.

A two-year program, requiring 60 credits, leads to an Associate of Applied Science Degree. Career Development Certificates are also available in specialized areas.

AAS /Technical Core Courses (30 Credits)

IST	101	Quality Control Concepts and Techniques I	3
IST	102	Techniques of Supervision I	3
IST	103	Industrial Safety I	3
IST	104	Techniques of Supervision II	3
BUS	102	Business Law	3
ACC	101	Accounting Principles I	3
INF	101	Introduction to Microcomputers	3
IST	201	Personnel Management and Training	3
IST	202	Production Planning and Control	3
IST	211	Labor Relations	3

AAS/General Education Requirements (18 Credits)

ENG	101	English Composition	3
ENG	103	Speech	3
MAT	101	Algebra I	3
MAT	108	Statistics	3
SOC	101	Human Relations	3
SOC	106	Principles of Macroeconomics	3

AAS/Regional Courses (12 Credits)
May select from:

INF	206	Integrated Business Software	3
MKT	101	Marketing	3
BUS	101	Introduction to Business	3
BUS	204	Case Studies	3
BUS	208	Organizational Behavior	3
DSM	101	Logistics	3

Students may select other courses with the approval of the progam advisor.

Total AAS Credits **60**

INDUSTRIAL SUPERVISION TECHNOLOGY
COURSE DESCRIPTIONS

INDUSTRIAL SUPERVISION TECHNOLOGY
COURSE DESCRIPTIONS

IST 101 - QUALITY CONTROL CONCEPTS AND TECHNIQUES I

3 Credits

Covers current quality control concepts and techniques in industry, with emphasis on modern manufacturing requirements.

IST 102 - TECHNIQUES OF SUPERVISION

3 Credits

Introduces basic employee development with emphasis on the responsibilities of a newly appointed supervisor. Special attention is given to organizational structure, motivation, delegation of authority, interviews, orientation and induction of new employees, employee performance evaluations, and dealing with employee conflict.

IST 103 - INDUSTRIAL SAFETY I

3 Credits

Covers the day-to-day responsibilities of management and supervision toward attaining an accident-free organization. Emphasizes first aid, fire prevention and control, safety procedures in starting and stopping machines, accident investigations, and other preventive measures. Also covers methods of advertising good safety practices, rules of plant protection in relation to safety and OSHA.

IST 104 - TECHNIQUES OF SUPERVISION II

3 Credits

Further develops skills for effective supervision of employees by utilizing analysis of cases, group discussion, in-basket exercises, and role-playing. Includes problem-solving techniques, labor relations, legal guidelines, policy making, counseling troubled employees, effective communications, and human relations skills.

IST 105 - BUSINESS MANAGEMENT/MANUFACTURING

3 Credits

Introductory manufacturing course. Focuses on basic principles, practices, and functions of manufacturing management. Includes applications in the service industries, such as utilities, hospitals, and government.

IST 201 - PERSONNEL MANAGEMENT AND TRAINING
3 Credits

Manpower planning, employee recruitment, selection and placement, promotions, transfers, separations, and wage and salary administration. Emphasizes employee training as an organizational resource. Demonstrates development and implementation of effective training programs. Attention is given to the nature of learning, concept teaching, the creation of a motivating learning atmosphere, use of audiovisual aids, planned versus spontaneous learning, rote teaching, mnemonic devices, learning curves, and learning as problem solving.

IST 202 - PRODUCTION PLANNING AND CONTROL
3 Credits

Production planning concepts and inventory control techniques and applications. Areas of concentration include the production function, design and development of products/services, location and layout, forecasting and scheduling, materials purchasing and inventory management, and quality control.

IST 210 - CASE PROBLEMS IN MANAGEMENT
3 Credits

Application of quantitative and qualitative skills to case study problems in management. Solutions demand planning, leadership, and financial analysis.

IST 211 - LABOR RELATIONS
3 Credits

Examines labor laws and practices pertaining to industrial relations. Covers development and application of laws, mediation conciliation, collective bargaining, arbitration, and handling of grievances.

INFORMATION/DATA MANAGEMENT

Information/Data Management is a user-oriented program with an emphasis on microcomputer applications within a business environment. Demand for employees with computer and business skills is particularly high in small and medium-sized firms which create, transmit, and control information by using computer technology as a management tool.

Business automation systems allow for the integration of several functionally related applications such as word processing, database management, spreadsheet, programming, electronic mail systems, electronic filing, graphics generation, and telecommunications. These systems may be stand-alone, shared logic, distributed, or integrated.

The Associate of Applied Science degree is awarded upon successful completion of 60 credit hours. A Technical Certificate is also available.

NOTE: See program advisor and prerequisite information with course descriptions for recommended sequencing of program requirements. Students may pursue selected courses only— in conjunction with another program of study or for career advancement.

ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

AAS/Technical Core Courses			(36 Credits)
*Technical Certificate			(24 Credits)
*INF	101	Introduction to Microcomputers	3
*INF	102	Microcomputer Operating Systems	3
*INF	103	Microcomputer Programming	3
*INF	201	Microcomputer Database Management Systems	3
*INF	202	Electronic Spreadsheets	3
INF	203	Computer Business Applications	3
*CPT	101	Data Processing Fundamentals	3
CPT	103	Logic and Documentation	3
CPT	202	Data Communications	3
CPT	203	Systems Analysis and Design	3

*BUS	101	Introduction to Business	3
*ACC	101	Accounting Principles I	3

AAS/General Education Requirements   (15 Credits)
*Technical Certificate   (6 Credits)

*MAT	101	Algebra I	3
ENG	101	English Composition I	3
*ENG	101	English Composition II	3
ENG	103	Speech	3
SOC	101	Human Relations	3

AAS/Regional Courses   (9 Credits)

May select from:

ACC	102	Accounting Principles II	3
BUS	102	Business Law	3
BUS	201	Principals of Management	3
BUS	202	Human Resource Management	3
CPT	102	Introduction to COBOL Programming	3
CPT	104	Operating Systems	3
CPT	105	Practical Computer Operations	3
CPT	106	Unix V Operating Systems	3
CPT	204	Systems Development with High-Level Tools	3
CPT	209	"C" Programing	3
ENG	201	Technical Writing	3
INF	206	Integrated Business Software	3
INF	210	Hardware and Software Troubleshooting	3
MKT	103	Principles of Retailing	3
MKT	201	Introduction to Market Research	3
SEC	205	Business English for Information Processing	3
SEC	212	Microcomputer Word Processing	3

Student may select other courses with the approval of the program advisor.

Total AAS Credits   60
*Total Technical Certificate Credits   30

INFORMATION/DATA MANAGEMENT COURSE DESCRIPTIONS

INF 101 - INTRODUCTION TO MICROCOMPUTERS
3 Credits

Introduces the physical components and operation of microcomputers. Focuses on computer literacy, and basic concepts of word processing, spreadsheet processing and database processing as examples of common microcomputer applications used in business. Prerequisite 20 wpm typing skill.

INF 102 - MICROCOMPUTER OPERATING SYSTEMS
3 Credits

Introduces the organization, structure, and functions of an operating system for a microcomputer. Presents student with operating system concepts such as: commands, error messages, interrupts, function calls, device drivers, structure, files, and organization, with practical applications. Prerequisite INF 101. Due to the technical nature of this class, we recommend completion of CPT 103 and INF 103.

INF 103 - MICROCOMPUTER PROGRAMMING
3 Credits

Introduces a structured microcomputer language. Concepts in input output commands, arithmetic expressions, conditional control, iteration techniques, and subroutines are emphasized. Offers application opportunities for solving business problems. Prerequisite INF 101.

INF 201 - MICROCOMPUTER DATABASE MANAGEMENT SYSTEMS
3 Credits

Presents an overview of relational, hierarchical and network database models with emphasis on microcomputer relational database management systems (DBMS). Using database software, students have hands-on experience creating, modifying, retrieving and reporting from databases. Students also develop business applications using the database language. Prerequisite INF 101, recommend completion of INF 102, 103 and CPT 103.

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INF 202 - ELECTRONIC SPREADSHEETS
3 Credits

Presents an in-depth study of an electronic spreadsheet. Focuses on business applications using menu commands, formulas, functions, macro commands, graphs, printing, database, and file operations. Prerequisite INF 101, recommend completion of INF 102.

INF 203 - COMPUTER BUSINESS APPLICATIONS
3 Credits

Advanced course in which the students apply business skills, microcomputer skills, and communication skills within business applications. Emphasis is placed on application of several forms of computerized information processing including data processing, word processing, spreadsheets, graphics, and communications. Students will also analyze the effects of automation on the office worker, management, and the work environment and prepare written and oral presentations. Prerequisite INF 201, 202, ENG 103, recommend completion of CPT 203. (Information /Data Management Program Advisor signature required).

INF 204 - OFFICE AUTOMATION
3 Credits

Presents a perspective on the needs, potentials, and urgencies of systems to support modern office functions. Concentration is on structured analysis and design of hardware/software systems for creating, maintaining, printing, and communicating data files utilizing text processing systems. Methodologies for creating procedures to produce letters and reports from data files are covered. Concepts and techniques will be incorporated into practical applications. Prerequisite INF 101.

INF 206 - INTEGRATED BUSINESS SOFTWARE
3 Credits

Presents knowledge of integrated microcomputer software concepts. Students will design a complete business system utilizing all parts of an integrated microcomputer software package which can share the same data, manipulating it in different ways. Projects will include usage of word processing, electronic spreadsheets, graphics, databases, and command language. Prerequisite INF 101.

INF 210 - HARDWARE AND SOFTWARE TROUBLE-SHOOTING

3 Credits

Presents an in-depth analysis of the components of a computer system and their relationship to each other. Includes concepts of parallel and serial connectivity, installation and maintenance of software, peripheral devices, interface cards, and device drivers. The student will analyze realistic hardware/software problems encountered in the workplace and learn techniques and procedures to implement solutions. Prerequisite INF 102.

INF 211 - ADVANCED DATABASE MANAGEMENT SYSTEMS

3 Credits

A continuation of INF 201 Microcomputer Database Management Systems. Emphasis is the development of advanced applications in database management. Prerequisite INF 201.

INF 212 - ADVANCED ELECTRONIC SPREADSHEETS

3 Credits

A continuation of INF 202 Electronic Spreadsheets. Emphasis is on the advanced application of electronic spreadsheets. Prerequisite INF 202.

INF 214 - TOPICS IN INFORMATION MANAGEMENT

3 Credits

Discusses topics of current interest in information management. Attention is given to special interest projects. Field trips, guest speakers, audio-visual activities, and seminars may be utilized. Program Advisor approval required. Note: This course will serve initially as an independent study project course for students needing to develop skills missed as a result of the quarter to semester transition.

INF 220 - COOPERATIVE EDUCATION

1-9 Credits

This course is designed to give students the opportunity to apply concepts learned in the classroom to actual work situations. College credit is earned by satisfying both academic standards of the College and the work performance standards of the employer. (Program Advisor approval required).

INF 288 - SPECIAL TOPICS IN INFORMATION/DATA MANAGEMENT TECHNOLOGY

1-5 Credits

A Special Topics Course provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area (Contact Program Chairperson or Program Advisor for more information).

MARKETING TECHNOLOGY

The Marketing Technology program offers extensive business

training to prepare the student for employment opportunities in marketing operations and management. Courses include marketing, management, sales techniques, retailing, advertising, accounting, mathematics and communications.

Career opportunities may be found in management, advertising, distribution, professional sales, retailing, wholesaling, merchandising and market research for employment in profit as well as in nonprofit organizations.

A two-year program, requiring 60 credits, leads to an Associate of Applied Science Degree. Career Development Certificates are also available in specialized areas.

ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

AAS/Technical Core Courses (33 Credits)

BUS	101	Introduction to Business	3
MKT	101	Principles of Marketing	3
MKT	102	Principles of Selling	3
MKT	103	Principles of Retailing	3
MKT	104	Advertising	3
MKT	201	Introduction to Market Research	3
MKT	202	Logistics/Purchasing Control	3
MKT	204	Marketing Management	3
ACC	101	Accounting Principles I	3
BUS	201	Principles of Management	3
BUS	208	Organizational Behavior	3

AAS/General Education Requirements (18 Credits)

SOC	107	Principles of Microeconomics	3
ENG	101	English Composition	3
ENG	103	Speech	3
MAT	101	Algebra I	3
MAT	107	Math of Finance	3
INF	101	Introduction to Microcomputers	3

AAS/Regional Courses (9 Credits)

May select from:

BUS	202	Human Resouce Management	3
BUS	203	Entrepreneurship	3
BUS	103	Information/Word Processing	3
INF	202	Electronic Spreadsheets in Business	3
BUS	288	Special Topics in Management	2-6
BUS	102	Business Law	3
HUM	102	Ethics	3

Students may select other courses withthe approval of the program advisor.

Total AAS Credits 60

MARKETING TECHNOLOGY COURSE DESCRIPTIONS

MKT 101 - PRINCIPLES OF MARKETING

3 Credits

Introduces the marketing role in society and how it affects the marketing strategy, with emphasis on the marketing mix, product planning, and the effects of the demographic dimension on the consumer market.

MKT 102 - PRINCIPLES OF SELLING

3 Credits

Provides an overview of selling and the selling process. Includes the psychology of selling and develops selling skills through a series of selling situations.

MKT 103 - PRINCIPLES OF RETAILING

3 Credits

Studies retailing concepts and practices, including retail merchandise planning, buying, pricing, promotion, and control in established retail operations. Attention is given to managerial and operational skills.

MKT 104 - ADVERTISING

3 Credits

Focuses on advertising as the key element in the promotion of goods and services in the marketplace. Attention is given to advertising media and media selection, advertising copy strategy, advertising regulations and organizations of advertising functions.

MKT 201 - INTRODUCTION TO MARKET RESEARCH

3 Credits

Applies basic research methods entailing procedures, questionnaire design, data analysis, and effectively communicating research results.

MKT 202 - LOGISTICS/PURCHASING CONTROL

3 Credits

This course introduces the student to the framework of logistics, the logistics environment, customer services and materials management. Subjects of current interest, to include material resources planning (MRP) and just-in-time (JIT) principles, are also introduced.

MKT 204 - MARKETING MANAGEMENT
3 Credits

Focuses on the analysis, implementation, and control of marketing strategy. Emphasis is placed on the major decisions management faces in its effort to harmonize the objectives and resources of the organization with the needs and opportunities of the marketplace.

BUS 101 - INTRODUCTION TO BUSINESS
3 Credits

Examines our business system in relation to our economic society. Studies business ownership, organization principles and problems, management, control facilities, administration, and development practices of American business.

BUS 201 - PRINCIPLES OF MANAGEMENT
3 Credits

Focuses on the functions of managers, including the management of activities and personnel. Focus is placed on application of guidance principles i management work.

BUS 208 - ORGANIZATIONAL BEHAVIOR
3 Credits

Studies human behavior in organizations at the individual and group level, including the effect of organizational structure on behavior. Specific attention will be given to using organizational behavior concepts for developing and improving interpersonal skills.

ACC 101 - ACCOUNTING PRINCIPLES 1
3 Credits

Introduces the fundamental principles, techniques, and tools of accounting. The mechanics of the accounting cycle include collecting, recording, summarizing, analyzing, and reporting of information pertaining to service and mercantile enterprises. Internal control, deferred charges, notes and interest, valuation of receivables, payrolls, inventories, and plant assets are also covered.

PARALEGAL TECHNOLOGY

The demand for trained paralegals is increasing and the number of job opportunities is projected to increase significantly by the mid 1990s, according to employment analysts. Ivy Tech recognizes this demand and has shaped a curriculum with input from attorneys and professionals associated with the legal community. These advisors offer Ivy Tech the opportunity to establish the qualifications necessary for success in the paralegal field. Ivy Tech's courses meet these qualifications, providing trained, knowledgeable paralegal professionals.

The duties of trained specialists can range from assisting in complicated legal research to managing the scheduling of court appearances. The educational training provides a wide variety of job opportunities and mobility. Classroom lectures in such areas as civil law, real estate, research and writing, wills and trusts, combined with on-the-job training, prepare students for an exciting job as a paralegal. Most courses are taught by qualified, practicing attorneys who emphasize practical hands-on training to prepare students for an exciting job as a paralegal.

The program requires 75 credits for completion.

AAS/Technical Core Courses (55 Credits)

LEG	101	Office Management and Ethics	3
LEG	102	Research and Writing	4
LEG	103	Civil Procedure	3
LEG	104	Torts	3
LEG	105	Business Associations	3
LEG	106	Claims Investigation	3
LEG	107	Contracts and Commercial Law	3
LEG	108	Property Law	3
LEG	109	Family Law	3
LEG	110	Wills, Trusts and Probate	3
LEG	111	Criminal Law and Procedure	3
LEG	112	Bankruptcy Law	3
LEG	201	Appellate Procedure	2
LEG	202	Litigation	3
LEG	203	Computers in the Law Office	3
ACC	108	Career Essentials of Accounting	3
INF	206	Integrated Business Software	3

AAS/General Education Courses (18 Credits)

ENG	101	English Composition I	3
ENG	102	English Composition II	3
SOC	101	Human Relations	3
MAT	107	Math of Finance	3
INF	101	Introduction to Microcomputers	3
SCI	XXX	Life and Physical Science Elective	3

AAS/Regional Courses (6 Credits)

May select from:

ENG	103	Speech	3
INF	202	Electronic Spreadsheets	3
SOC	102	Introduction to Psychology	3
SOC	105	Introduction to Political Science	3

Students may select other courses with approval fromt the program advisor.

Total AAS Credits 75

PARALEGAL TECHNOLOGY COURSE DESCRIPTIONS

LEG 101 - OFFICE MANAGEMENT AND ETHICS
3 Credits

Instruction on automated and manual docket and conflict control systems, file organization, closed file control systems, file organization, closed file control research segregation, client funds handling and management principles. Emphasizes internal communication skills and compliance with the Rules of Professional Conduct.

LEG 102 - RESEARCH AND WRITING
4 Credits

The study and use of legal research tools such as digests, loose leaf services, reporters, statutory compilations and forms books. Legal writing format and methodology are presented through practical application in drafting memoranda and correspondence. Shepardizing and proper case citation skills are emphasized.

LEG 103 - CIVIL PROCEDURES
3 Credits

A study of the Indiana Trial Rules and miscellaneous local rules. Filing requirements, computation of time and form drafting are emphasized.

LEG 104 - TORTS
3 Credits

Torts includes a survey of the law of comparative negligence, products liability, defamation, false arrest and other civil wrongs, including knowledge of the elements of such causes of action.

LEG 105 - BUSINESS ASSOCIATIONS
3 Credits

The study of various business structures and the rights, duties, liabilities and formalities attendant to such structures. A survey of partnership, agency and corporation law is included.

LEG 106 - CLAIMS INVESTIGATION
3 Credits

The study of witness interview techniques, preservation of evidence, organizational skills and alternative methods of gathering facts. Professional client intake and client communication skills are emphasized.

LEG 107 - CONTRACTS AND COMMERCIAL LAW
3 Credits

A survey of contract law and the Uniform Commercial Code. Special statutes regarding state unfair trade practices, consumer deception and consumer rights are also presented.

LEG 108 - PROPERTY LAW
3 Credits

A survey of the law of real and personal property. Provides practical exposure to title searches, loan documentation, zoning requirements, financing statements, leases and deeds.

LEG 109 - FAMILY LAW
3 Credits

A survey of the law of dissolution, custody, child support and visitation, marriage and adoption. Financial declaration forms, client intake skills, Child Support Guidelines and available social services are presented as practical information.

LEG 110 - WILLS, TRUSTS, AND PROBATE
3 Credits

Survey of the law of estates, wills, probate and guardianship, as well as intestate succession. Preparation of probate and administration forms, asset inventories and valuations, certain tax forms and accountings are included.

LEG 111 - CRIMINAL LAW AND PROCEDURES
3 Credits

Survey of Indiana criminal statutes and selected federal criminal laws. Investigative and administrative skills are emphasized.

LEG 112 - BANKRUPTCY LAW
3 Credits

Bankruptcy Law includes a survey of the Federal Bankruptcy Act. Emphasizes skills needed to accumulate personal financial information, compile initial schedules, collect and organize data for first meeting of creditors, complete proofs of claim and pursue creditor's rights.

LEG 201 - APPELLATE PROCEDURE

2 Credits

In-depth study of the Indiana Rules of Appellate Procedure, with concentration on the mechanical aspects of preparation and filing of the record on appeal and the format required for briefs submitted. Prerequisites 102 and 103.

LEG 202 - LITIGATION

3 Credits

Litigation includes the study of the Indiana Rules pertaining to actual trial. The discovery process and its tools are reviewed. Skills such as document organization and retrieval, witness statement and deposition summarizing, indexing and scheduling are presented. The Federal Rules of Evidence are surveyed. Trial notebook preparation is surveyed. Prerequisites LEG 102 and 106.

LEG 203 - COMPUTERS IN THE LAW OFFICE

3 Credits

A survey of software support available to the law practitioner such as litigation support and estate planning support. Also includes instruction on availability and use of research databases such as Dialog, Nexis, Lexis and Westlaw.

Prerequisites INF 101, 206 or SEC 212 or equivalent.

LEG 288 - SPECIAL TOPICS IN PARALEGAL TECHNOLOGY

1-5 Credits

A Special Topics Course provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area

Applied Science and Technologies

The Division of Applied Science and Technologies provides broad, practical training for those seeking employment and advancement in technical occupations. The programs emphasize the ability to think and plan in the job setting. Initial laboratory experiences develop skills in the use of modern industrial equipment and measuring instruments. Later classroom and laboratory work provide training in industrial applications of theory, analysis, design, and construction techniques. Each program provides opportunities for the student to advance from basic skills to proficiency on a high technological level.

Program advisory committees, composed of experts in each area of industry, serve the important function of keeping the content of the programs current with the changes in technology. Ivy Tech's programs and courses are designed to meet the needs of local industries.

The Division offers eight programs of study with Career Development Certificates, Technical Certificates and Associate of Applied Science Degrees. Within the eight programs a student may select from a wide range of Career Certificates or specialty areas.

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Divisional Program/Specialty Chart

Manufacturing Technologies Department

Drafting/CAD Technology
* *CAD Drafting Architectural Specialty (AAS)*
* *CAD Drafting Mechanical Specialty (AAS)*

Automated Manufacturing Technology
* *Automation Systems Specialty (AAS)*
* *Cad/CAM Specialty (AAS)*
* *CNC Specialty (TC)*

Industrial Laboratory Technology
* *Instrumentation Specialty (AAS)*
* *Environmental Science Specialty (AAS)*
* *Quality Control Specialty (AAS)*

Electronics Technology
•Industrial Specialty(AAS)
•Digital/Communications Specialty (AAS)

Technical Services Department

Automotive Service Technology
* *Manufactures Specialty (AAS)*
    Ford ASSET
    Toyota T-Ten
* *Auto Service Specialty (AAS)*
* *Auto Body Specialty (TC)*

Industrial Maintenance Technology
* *Electrical System Specialty (AAS)*
* *Mechanical Systems Specialty(AAS)*
* *Facilities Specialty (AAS)*
* *Welding Specialty (TC)*

Heating, Air Conditioning and Refrigeration Technology
* *Heating Ventilation and Air Conditioning Specialty (AAS)*
* *Heating Ventilation and Air Conditioning (TC)*

Applied Fire Science Technology
* *Fire Science Specialty (AAS)*

All above programs offer Career Development Certificates.

APPLIED FIRE SCIENCE TECHNOLOGY

The Applied Fire Science Technology program provides students with course work in theory, formula, and application in the science of firefighting. This is coupled with extensive "hands-on" practical skills, abilities, and knowledge training to prepare graduates for employment and promotional advancements in fire departments, industrial plants, fire underwriters groups, and building fire safety organizations.

The two-year program, requiring 66 credits, leads to the Associate of Applied Science degree. State of Indiana Master Certifications are available in specialized areas: Driver/Operator, Aircraft Crash and Rescue, Strategy and Tactics, Fire Service Management, Fire Prevention/Inspector, Fire/Arson Investigation, Public Fire Educator, and Hazardous Materials Specialist.
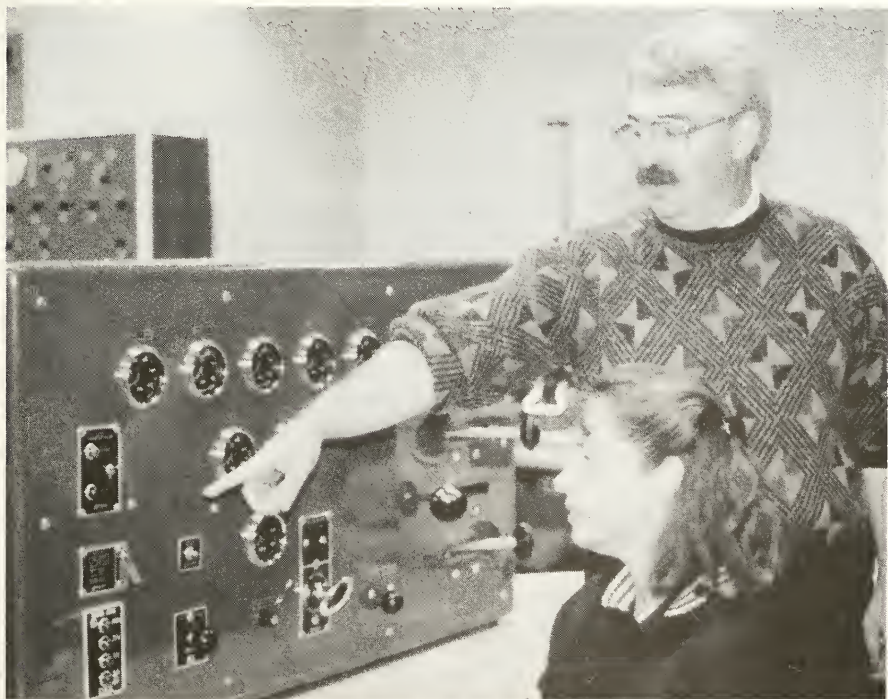
AAS/Technical Core Courses   (33 Credits)

AFS	101	Fire Technology	3
AFS	102	Fire Apparatus and Equipment	3
AFS	103	Firefighting Strategy and Tactics	3
AFS	104	Building Construction Fire Service	3
AFS	105	Fire/Arson Investigation	3
AFS	106	Hazardous Materials	3
AFS	108	Fire Prevention/Inspection	3
AFS	109	Fire Department Specifications	3
AFS	201	Fire Alarm and Protection Systems	3
AFS	202	Fire Service Management	3
AFS	204	Fire Service Hydraulics	3

AAS/General Education Courses   (18 Credits)

ENG	101	English Composition I	3
ENG	103	Speech	3
MAT	101	Algebra I	3
SOC	101	Human Relations	3
SCI	107	Chemistry	3
ELT	104	Computer Fundamentals for Technology	3

AAS/Regional Courses   (15 Credits)

AFS	208	Industrial Fire Loss Prevention	3
AFS	209	Fireground Management	3
AFS	210	Computers for the Fire Service	3
SOC	105	Introduction to Political Science	3
IMT	121	Industrial Safety	3
Total AAS Credits			**66**

APPLIED FIRE SCIENCE COURSE DESCRIPTIONS

AFS 101 - FIRE TECHNOLOGY
3 Credits

This general introduction to the study of fire science covers the history of fire fighting, types of fire apparatus and protection systems, and general fire problems. Includes study of the chemical and hazardous properties of combustion and related by-products.

AFS 102 - FIRE APPARATUS AND EQUIPMENT
3 Credits

An in-depth examination of the various types of fire apparatus in current use, including pumpers, aerials, elevating and rescue apparatus. Coursework, utilizing N.F.P.A. 1500 and 1901, develops skills in the selection of appropriate apparatus and the preparation of specifications. Includes evaluating bids, financing and equipment selection.

AFS 103 - FIREFIGHTING STRATEGY AND TACTICS
3 Credits

Focuses on decision-making related to fireground strategies and tactics at the company level. Various priority scenarios are presented, which include preparation for incident command and commanding the initial response. Emphasizes company operation and basic command decisions.

AFS 104 - BUILDING CONSTRUCTION FIRE SERVICE
3 Credits

The design principles involved in the protection of a structure from fire involvement are examined. Examines the signs, symptoms, and indicators of partial or total building collapse in firefighting operations. Includes study of legislative codes and laws concerning: Building Design, Building Fire Safety, Classification of Building Construction, and Blue Print Reading.

AFS 105 - FIRE/ARSON INVESTIGATION
3 Credits

Focuses on the responsibility of the firefighter, the investigator, and the department in fire scene investigations. Includes fire cause and loss, collection and preservation of evidence and determination of fire origin, with emphasis on the application of various scientific aids that assist in investigations.

AFS 106 - HAZARDOUS MATERIALS
3 Credits

Introduces basic chemistry in the study of the properties, derivations and uses of explosives and other dangerous materials. These include flammable liquids and solids, oxidizing materials, corrosives, and compressed gases. The identification of chemicals, storage, and handling of hazardous materials are emphasized.

AFS 108 - FIRE PREVENTION/INSPECTION
3 Credits

Examines the function of the fire inspector and organization of the fire prevention unit. Emphasizes the identification of the various codes and regulations utilized by the inspector, with special attention given to the Indiana Fire Code. Includes: the legal authority governing fire prevention, application of the fire code, and management principles as applied to a bureau.

AFS 109 - FIRE DEPARTMENT SPECIFICATIONS
3 Credits

This course consists of specifications of firefighting appartus, equipment and other sources of materials necessary to a fire department.

AFS 201 - FIRE ALARM AND PROTECTION SYSTEMS
3 Credits

Provides a basic introduction to fire alarm monitoring devices and extinguishing systems, with implications for fire protection and commercial applications. Technical areas of study include: fire extinquishing agents, portable fire extinguishers, carbon dioxide systems, dry chemical systems, halogenated/foam systems, and building monitoring systems.

AFS 202 - FIRE SERVICE MANAGEMENT
3 Credits

The principles and functions of fire science administration and management personnel are introduced. Areas of study include: department organization; administrative and management procedures, personnel selection; line and staff functions; communications; the fire company unit; public relations; and, current problems in administration.

AFS 204 - FIRE SERVICE HYDRAULICS
3 Credits

This study of compressible fluids includes: fluid properties, principles of fluid statics, flow system principles, pipe friction and heat loss, flow measurements, pumps and other hydraulic devices and machinery, with applications for fire protection and water supply systems.

AFS 208 - INDUSTRIAL FIRE LOSS PREVENTION
3 Credits

Provides for comprehensive study of industrial fire loss prevention and control management programs. Includes: procedures for fire risk and loss control; standards and specifications for equipment; laws, codes and organization of fire brigades; and, administrative control of industrial operation.

AFS 209 - FIREGROUND MANAGEMENT
3 Credits

Emphasizes the command and control of major fire department operations at an advanced level, linking operations and safety. Areas of study include: pre-incident preparation, size-up, incident command system, and incident management. Utilizes simulated incidents requiring the applications of appropriate solutions.

AFS 210 - COMPUTERS FOR THE FIRE SERVICE
3 Credits

Examines the use of computers in the fire service. Includes computer-ordered dispatch, data information retrieval of hazardous materials control, and intervention, as well as text-editing abilities.

AUTOMATED MANUFACTURING TECHNOLOGY

The Automation Systems Specialty prepares technicians to design, install, calibrate, program, operate, test, analyze, trouble-shoot, service and repair advanced manufacturing, assembly, and materials-handling systems and data computer networks. This is a multi-disciplinary program which utilizes mechanical, electrical, thermal, and fluid technology to shape, form and process raw materials into finished products; assemble parts into finished products using sensing, vision, and robotic techniques; use automated modern material handling techniques including conveyors, manless parts vehicles, and storage systems; and use computer data communications networks such as machine controllers, robot controllers, cell computers and computers adapted for inventory control and manufacturing.

Coursework includes studies in technical math, physics, written and oral communications, interpersonal and human relations. Technical study covers electricity, electronics, solid state devices, digital electronics, microprocessor and computer fundamentals, programmable controllers, hydraulics, pneumatics, servo-mechanisms, drives and drive-trains, robots, workcells and flexible manufacturing systems, machine tools, computer-aided drafting/computer-aided manufacturing, computer numerical control, and computer integrated manufacturing.

The two-year program requiring completion of 70 credits leads to the Associate of Applied Science degree. Specialty areas include CNC, Automation Systems, and CAD/CAM.

CNC Specialty: The Machine Tool Technology (CNC Specialty) is designed to serve the needs of students with varying levels of training and experiences. Therefore, courses are offered which provide for various stages of development including introductory, refresher, and upgraded levels, to aid individuals in attaining their educational goals.

It is the Machine Tool Technician who fabricates the products that, when assembled with other components, comprise the complex machinery used to manufacture a variety of products.

CAD/CAM Specialty: The CAD/CAM Specialty option within the Automated Manufacturing Technology program prepares students for employment with companies employing Computer-Aided Design (CAD) and Computer- Aided Manufacturing (CAM) in the design and manufacture of products. The CAD/CAM technician plays an essential role in today's highly integrated and automated manufacturing environment. A CAD/CAM technician may be responsible for initial product design, post-processing geometry to machine code and product manufacturing using the latest in high technology manufacturing equipment. With suitable experience a CAD/CAM technician may advance to supervising of a design department within a manufacturing firm.

Areas of study include both manual and Computer-Numerical Control (CNC) machining, manufacturing processes, Computer-Aided Design (CAD), Computer-Aided Manufacturing (CAM) and metallurgy. Additional courses in fluid power, robotics and industrial controls serve to broaden the students' knowledge in related areas of factory automation.
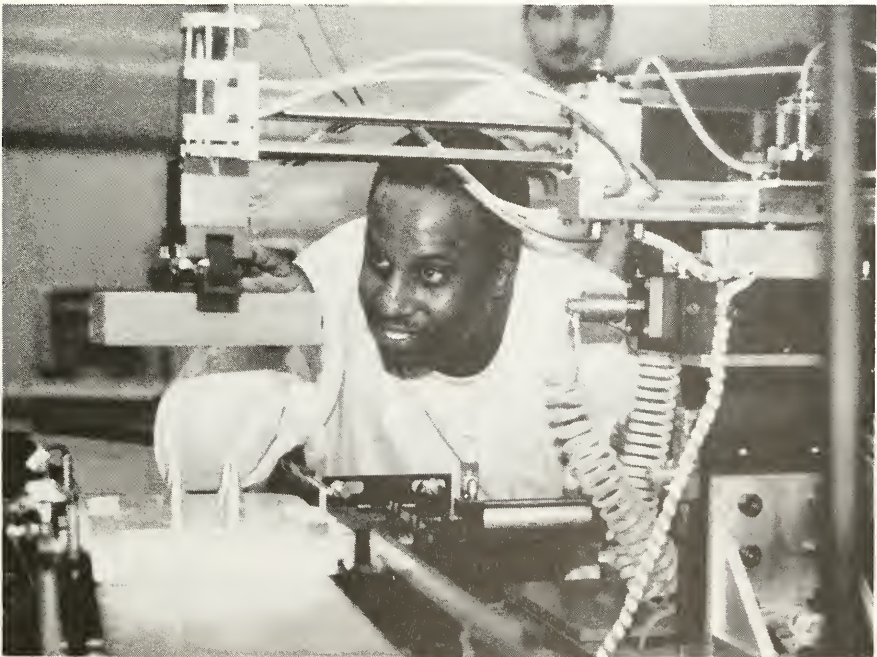
ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

AAS/Automation System Speciality (45 Credits)

AMT	101	Manufacturing Processes	3
AMT	102	Introduction to Robotics	3
AMT	201	Manufacturing Systems Control	3
AMT	202	Work Cell Design and Integration	3
AMT	203	Automation Electronics	3
AMT	204	Automation Management	3
AMT	205	Automated Manufacturing Systems	3
ELT	100	Circuits I	4
ELT	103	Digital Principles	4
ELT	104	Computer Fundamentals for Technology	3
ELT	105	Solid State I	4
DCT	103	CAD Fundamentals	3
IMT	104	Fluid Power Basics	3
MTT	204	CNC Programming I	3

AAS/General Education Requirements (21 Credits)

ENG	101	English Composition I	3
MAT	104	Algebra/Trigonometry I	3
SCI	103	Physics I	3
SCI	105	Physics II	3
SOC	101	Human Relations	3
ENG	201	Technical Writing	3
MAT	105	Algebra/Trigonometry II	3

AAS/Regional Courses (4 Credits)

See Program Advisor

Total AAS Credits   **70**

AAS/CAD/CAM SPECIALTY (25 Credits)

AMT	101	Manufacturing Processes	3
AMT	102	Introduction to Robotics	3
AMT	201	Manufacturing Systems Control	3
ELT	100	Circuits 1	4
DCT	103	CAD Fundamentals	3
IMT	104	Fluid Power Basics	3
MTT	204	CNC Programming 1	3
ELT	104	Computer Fundamentals for Technology	3

General Education Requirements (18 Credits)

ENG	101	English Composition I	3
ENG	201	Technical Writing	3
MAT	103	Geometry/Trigonometry	3

MAT	104	Algebra/Trigonometry 1	3
SCI	103	Physics 1	3
SOC	101	Human Relations	3

<u>**AAS/Regional Courses**</u>   <u>(27 Credits)</u>
DCT 102, 107, 218, 288.05
MTT 101, 102, 205, 201, 209
IMT 120
Total Credits   **70**

CNC SPECIALTY (**Technical Certificate**) *(Machine Tool)*

<u>(30 Credits)</u>

MTT	101	Machining Fundamentals I	3
MTT	102	Machining Fundamentals II	3
MTT	108	Precision Measurement	3
MTT	201	Advanced Machine Tool Process	3
MTT	202	Advanced Machine Tool Set up/ Operation	3
IMT	120	Metallurgy Fundamentals	3
MTT	204	CNC Programming I	3
MTT	205	Interactive CNC	3
MTT	209	CNC Programming II	3
IMT	102	Introduction to Print Reading	3

<u>**General Education Requirements**</u>   <u>(6 Credits)</u>
MAT 101 Algebra I   3
MAT 103 Geometry/Trigonometry   3

AUTOMATED MANUFACTURING TECHNOLOGY COURSE DESCRIPTIONS

AMT 101 - MANUFACTURING PROCESSES
3 Credits

A basic survey of manufacturing processes, tools and equipment used by modern industry to convert bars, forgings, castings, plates and sheet materials into finished products. Includes basic mechanics of materials removal and forming, metrology, quality control, and safety of operations. Extensive programming of both table-top and full size robots is used to reinforce the concepts taught. Prerequisite are ELT 100 and 102.

AMT 102 - INTRODUCTION TO ROBOTICS
3 Credits

Introduces robotics and automated systems and their operation. Includes robotics principles of operation and work envelopes. Various coordinate systems and how hydraulic, pneumatic and electromechanical systems function together as a system. Also covers servo and nonservo controls, system capabilities and limitations, and safety. Robot tooling is investigated including welders, magnetic and vacuum pickups, compliance devices, adhesive and paint sprayers.

Prerequisites ELT 100, ELT 104.

AMT 201 - MANUFACTURING SYSTEMS CONTROL
3 Credits

An introduction to the field of industrial controls. Covers the principles of control systems as applied to a production system to achieve automation. Systems included are relay ladder logic, programmable logic controllers, microprocessors, computers and feedback systems. Troubleshooting of production control systems is covered.

Prerequisites or corequisites are AMT 102 and ELT 103.

AMT 202 - WORKCELL DESIGN AND INTEGRATION
3 Credits

Investigates principles of design and implementation of automation in industrial workcells. Covers communications within a workcell, application of cell sensors, cell controllers and robots. Students will design and build workcells incorporating programmable controllers and robots. Prerequisites are AMT 102, ELT 103 and ELT 105. Corequisite is AMT 201.

AMT 203 - AUTOMATION ELECTRONICS
3 Credits

The operation and application of electronic devices in the automation field. Applications include linear integrated circuits, sensors and interfacing systems, actuators and drive controls, and process control techniques. Prerequisite is ELT 105.

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AMT 204 - AUTOMATION MANAGEMENT
3 Credits

Designed to provide training in basic principles applications in short and long-term planning, control of operations for production and services, and improvement programs in any organization. Includes: characteristics of systems and solution to problems for process of products and service operations; methods analysis; cost estimating; facilities planning, tooling and services acquisition and maintenance; production, project, and program scheduling; materials and inventory management; safety and loss prevention; decision making tools and the evaluation of alternatives. Prerequisites are AMT 102, 201, and MAT 105.

AMT 205 - AUTOMATED MANUFACTURING SYSTEMS
3 Credits

Students, working in teams and under the instructor's supervision, will select equipment, write specifications, design fixtures and interconnects, integrate systems, provide interfaces and make the assigned systems operational to produce marketable products.
Prerequisites are AMT 102, 201, and 202.

MTT 101 - MACHINING FUNDAMENTALS 1
3 Credits

Informs the student of shop safety, shop terminology, shop tools, and machine tooling, measurement and layout practices, and applied practicum to begin project completion of lathes. Through a series of lectures, demonstrations and practicums, students will gain manipulative skills to complete project assignments. Prerequisite MAT 101.

MTT 102 - MACHINING FUNDAMENTALS II
3 Credits

Structured to apply hands-on applications to project completion on the mill with benchwork and layout procedures involved, as well a,s technical terminology and mathematical applications. The course gives the student a comprehensive introduction to basic machining operations and theory. Mill, drill and saw operations are completed by the student at the technical level of a tool and die apprenticeship. Prerequisite MAT 101.

MTT 108 - PRECISION MEASUREMENT
3 Credits

Techniques of linear and angular measurement and applications in machine tool production and quality control.

MTT 201 - ADVANCED MACHINE TOOL PROCESS
3 Credits

In this course, the student is introduced to surface grinding theory and practice. Skills presented in this course are surface grinding, cylindrical grinding, slot and contour grinding. This course builds upon previously acquired skills of machine precision finishes and tolerances. Various types of grinding machines are covered in keeping with the aim of the course toward precision. Prerequisite MTT 102.

MTT 202 - ADVANCED MACHINE TOOL SETUP AND OPERATIONS
3 Credits

Includes advanced operational and setup procedures for tool processing. Emphasis on surface and cylindrical grinding with related mathematical operations. Prerequisite MTT 102.

MTT 204 - CNC PROGRAMMING I
3 Credits

Serves to introduce the student to the programming methodology involved with a three-axis milling machine. Areas to be covered shall include linear, angular, and circular interpolation programming, cutter compensation methods, NC codes, and operation of machines and related equipment. Emphasis shall be placed on proper programming formats. Prerequisite MTT 101, 102.

MTT 205 - INTERACTIVE CNC
3 Credits

In this course the student experiences hands-on programming challenges where he processes, programs and machines a workpiece using a CNC vertical milling machine utilizing: 1)Hurco conversational-English programming; 2) cutter compensation; 3) circles, frames, ellipses; 4) patterns; and 5) 3-D programming. Prerequisite MTT 204.

MTT 209 - CNC PROGRAMMING II
3 Credits

This course introduces computer-assisted numerical control programming as it relates to automated turning centers. Emphasizes proper programming techniques, control familiarity, field data, and machining functions. Prerequisite MTT 204.

AUTOMOTIVE SERVICE TECHNOLOGY

The well trained automotive service technician is in great demand because of the complexity of modern vehicles and society's transportation needs. Employment in the transportation industry may be found in new car dealerships, franchise automotive businesses, independent automotive repair centers, tire stores, service stations, leasing companies and government service centers. Some graduates may choose to become self-employed. Additional opportunities for employment are available in related areas such as recreational vehicles, off-highway equipment, insurance, and parts and services.

Automotive Service Technology is a four semester program requiring 69 credits that leads to an Associate of Applied Science degree. Career Certificates are also available in specialized areas. The program offers course work in chassis and suspension; two and four wheel alignment; braking systems; electrical fundamentals and electronic systems; carburetor and electronic fuel injection; engine performance; engine rebuild, air conditioning, and automatic and manual transmission/transaxles. Classroom lectures are combined with laboratory experiences where students gain diagnostic and service skills.

Two areas of specialty include the Ford ASSET program and the Toyota T-Ten program.

ASSET is a joint effort of Ford Motor Company, Ford and Lincoln-Mercury dealers and Ivy Tech. It is a two-year program designed to develop entry-level service technicians for Ford and Lincoln-Mercury dealerships. ASSET provides you with a unique two-year work-study experience that leads to an Associate of Applied Science Degree in Automotive Service Technology.

The ASSET program has been carefully designed to provide Ford and Lincoln-Mercury dealerships and their customers with well-qualified, Ford trained and certified service technicians who are proficient in the latest automotive service technologies and methods. In addition, the program: 1) Ensures that ASSET-trained service

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technicians are able to understand and work with new systems and components as they are introduced; 2) Enables ASSET-trained personnel to make rapid advancements in their career paths — after additional dealership experience.

ASSET has proven itself to be a highly popular, successful program that continues to grow and thrive.

T-Ten is a joint effort of Toyota Motor Sales, USA and Ivy Tech. It is a two-year cooperative education program that leads to an Associate of Applied Science Degree in Automotive Service.

The Toyota Technical Education Network has been developed to fill the growing need for technically competent apprentice technicians for dealerships. Through a cooperative link with Ivy Tech, Toyota will offer a variety of unique educational benefits.

• Latest Toyota Training Courses and Instructional Materials.
• Dealership Work-Study Opportunity
• Student Scholarships.
• Dealership Placement Assistance.
• State-of-the-Art Training Components and Vehicles.
• Student will earn an Associate of Applied Science Degree and Toyota Certification.

The T-Ten Program offers you the opportunity to get a head start in building a productive and rewarding career.

ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM
AAS/Technical Core Courses   (51 Credits)

AST	101	Chassis/Suspension Principles	3
AST	102	Two/Four Wheel Alignment	3
AST	104	Start and Charge Systems	3
AST	105	Fuel Systems	3
AST	106	Electronic Ignition Systems	3
AST	107	Engine Principles and Design	3
AST	108	Electrical Accessory Systems	3
ELT	113	Basic Electricity	3
AST	201	Heating and A/C Principles	3
AST	202	Computer Engine Controls	3
AST	203	Engine Rebuild	3
AST	204	Automatic Transmission/Transaxle	3
AST	205	Manual Transmission/Transaxle	3
AST	206	Heating and Air Conditioning Service	3
AST	207	Engine Performance	3
AST	208	Differentials/Drivelines	3
AST	209	Automotive Braking Systems	3

AAS/General Education Requirements (18 Credits)

ENG	101	English Composition I	3
ENG	103	Speech	3
SOC	101	Human Relations	3
MAT	101	Algebra I	3
MAT	103	Geometry/Trigonometry	3
SCI	101	Physical Science	3
Total AAS Credits			**69**

AUTOMOTIVE SERVICE TECHNOLOGY
COURSE DESCRIPTIONS

AST 101 - CHASSIS/SUSPENSION PRINCIPLES
3 Credits

Various frame designs and suspension systems used in modern vehicles are explained in this course. Repair and replacement of steering linkages and chassis components, both front and rear is included.

AST 102 - TWO/FOUR WHEEL ALIGNMENT
3 Credits

Investigates principles of two and four wheel alignment and wheel balance. Emphasis in the lab is on practical work experience, covering all the alignment angles.

AST 104 - START AND CHARGE SYSTEMS
3 Credits

An intensive study of the construction, function and principles of operation of starting motors, charging systems and their control systems with emphasis on diagnosis and bench repair.

AST 105 - FUEL SYSTEMS
3 Credits

Study of automotive fuel systems: single, double, and four barrel carburetor and fuel injection systems. Students also study emission controls, as they apply to the fuel system. Focus on shop procedures for trouble shooting, servicing, replacing or overhauling fuel system, and emission control components.

AST 106 - ELECTRONIC IGNITION SYSTEMS
3 Credits

Introductory course covering basic principles of electronic ignition systems. Includes functions and testing of the conventional breaker point ignition.

AST 107 - ENGINE PRINCIPLES AND DESIGN
3 Credits

Examines engine dynamics, theory of engine operation and design characteristics of all engine assemblies and sub-assemblies. Also covers the removal, tear down, visual inspection, precision measuring, inspection and cleanup of components and parts and rebuilding engines according to industry standards.

AST 108 - ELECTRICAL ACCESSORY SYSTEMS
3 Credits

Study of function, construction, principles of operation, and troubleshooting techniques for various accessories of automotive vehicles. Includes electrical accessories: windshield wipers and washers, power seats, power windows, adjustable steering wheels, power tailgates and headlights.

AST 201 - HEATING AND A/C PRINCIPLES
3 Credits

An in-depth study of automotive air conditioning and heating. Special emphasis on the operation and theory of the air conditioning system and its components. Vacuum and electrical control circuits are included.

AST 202 - COMPUTER ENGINE CONTROLS
3 Credits

Examines computerized ignition, carburetor, fuel injection and sensors for engine controls on late model passenger cars. Covers theory, diagnostic procedure and repair procedure of the computer command control, MCU, EEC IV, lean burn and other spark control systems.

AST 203 - ENGINE REBUILD
3 Credits

Precision machines, precision tools and equipment are needed for rebuilding today's modern engine. Their repair, proper assembly and installation techniques applicable to the automotive engine are included.

AST 204 - AUTOMATIC TRANSMISSION/TRANSAXLE
3 Credits

A lecture and laboratory course dealing with construction, functions and principles of operation. Emphasizes practical work experience in the lab where students overhaul automatic transmissions and transaxle assemblies in the lab.

AST 205 - MANUAL TRANSMISSION/TRANSAXLE
3 Credits

Theory and overhaul procedures related to the manual transmission/transaxle, clutches and transfer cases, diagnosing and overhauling the manual power train are studied.

AST 206 - HEATING AND AIR CONDITIONING SERVICE AND REPAIR
3 Credits

Covers diagnosis, service and repair procedures for the heating/air conditioning system. Includes replacement and overhaul procedures for components related to heating/air conditioning system.

AST 207 - ENGINE PERFORMANCE
3 Credits

An advanced course in the theory, diagnosis, and repair of computer controlled ignition s and fuel systems on late model vehicles, using state-of-the-art diagnostic equipment. Emphasis is on recommended manufacturer methods for servicing the computer controlled ignition system.

AST 208 - DIFFERENTIALS/DRIVELINES
3 Credits

A study of differential and driveline theory and overhaul. Includes overhaul and service procedures applicable to gear sets, bearings and seals. Theory and overhaul procedures related to the driveshaft and axle assemblies for front and rear wheel drive vehicles is included.

AST 209 - AUTOMOTIVE BRAKING SYSTEMS
3 Credits

Theory, service and repair of automotive braking systems and their components. Emphasis on hydraulic theory and repair and service of booster units, master cylinder, wheel cylinder, caliper rebuilds, and drum and rotor service.

AUTOMOTIVE SERVICE TECHNOLOGY
Auto Body Technology Specialty

The Automotive Body Repair Technology Specialty prepares students to become qualified body repair technicians. Courses are offered in body, frame, unibody, collision damage, paint refinishing, fiberglass/plastics repair, sheet metal repair, and welding. Training laboratories offer experience on up-to-date, sophisticated pulling systems used in precision alignment.

A one-year specialty, requiring 36 credits, leads to the Technical Certificate.

AUTOMOTIVE BODY REPAIR TECHNOLOGY - TECHNICAL CERTIFICATE PROGRAM

Technical Core Courses			(24 Credits)
ABR	101	Body Repair Fundamentals	3
ABR	103	Auto Paint Fundamentals	3
ABR	104	Collision Damage Analysis and Repair	3
ABR	105	Conventional Frame Diagnosis and Correction	3
ABR	107	Automotive Refinishing Technology	3
ABR	108	Unibody Structural Analysis/Repair	3
ABR	109	Collision Damage Appraising	3
WLD	114	Introductory Welding	3

General Education Requirements			(3 Credits)
SOC	101	Human Relations	3

Regional Courses			(9 Credits)
ABR	115	Auto Chassis and Accessory Circuits	3
ABR	119	Glass Installation	3
ABR	120	Fiberglass/Plastic Repair	3
Total Technical Certificate Credits			**36**

Auto Body Course Descriptions

　　ABR 101 - BODY REPAIR FUNDAMENTALS
　　3 Credits
　　Examines the characteristics of body metals and includes the installation of mouldings, ornaments and fasteners with emphasis on sheet metal analysis and safety.

　　ABR 103 - AUTO PAINT FUNDAMENTALS
　　3 Credits
　　Introduces auto paint with emphasis on the handling of materials and equipment in modern automotive technologies.

　　ABR 104 - COLLISION DAMAGE ANALYSIS AND REPAIR
3 Credits
　　Instruction in analyzing extensive body damage and determining the tools and procedures needed to replace panels.

　　ABR 105 - CONVENTIONAL FRAME DIAGNOSIS AND CORRECTION
　　3 Credits
　　The use of tools, frame machines and equipment for frame and chassis repair. Includes study of terms pertaining to front suspension and rear axle. The use of frame gauges, tram gauges, and other measuring devices is emphasized.

ABR 107 - AUTOMOTIVE REFINISHING TECHNOLOGY
3 Credits

Instruction in the total refinishing of an automobile with emphasis on advanced and specialty painting techniques.

ABR 108 - UNIBODY STRUCTURAL ANALYSIS AND REPAIR
3 Credits

This course includes unibody repairs; identification and analysis of damage; measuring and fixturing systems; straightening systems and techniques; mechanical component service and knowledge of suspension; and steering systems on front wheel drive unibody vehicles.

ABR 109 - COLLISION DAMAGE APPRAISING
3 Credits

Course work studies uses of estimation guides, procedures for itemizing abbreviations, parts numbers, and uses of time and money conversion tables. Emphasizes damage inspection, recording on estimate sheets, and the calculation of costs.

ABR 115 - AUTOMOTIVE CHASSIS AND
ACCESSORY CIRCUITS
3 Credits

Fundamentals of electrical theory, automotive components and circuits, and troubleshooting techniques. Emphasizes battery construction, function, and operation.

ABR 119 - GLASS INSTALLATION
3 Credits

Examines different types of automobile glass and their uses. Instruction includes Removal and installation of front or rear glass. Install and adjust side glass, bond the rear view mirror support, and use rubber channnel and synthetic rubber adhesive.

ABR 120 - FIBERGLASS/PLASTIC REPAIR
3 Credits

Introduces types of fiberglass and plastic materials used in autobody repair. Covers both interior and exterior applications.

DRAFTING/CAD TECHNOLOGY

The Drafting/CAD program reflects state of the art technology using Computer-Aided Drafting (CAD) equipment as well as the more traditional board drawings. This balance of equipment provides students with the necessary skills to be competitive in the job market. The program provides the student with two options within which to specialize: Mechanical and Architectural Drafting. These two specialties have many common areas of study that develop a working knowledge used within both the building and manufacturing industries.

A two-year program, requiring completion of 64 credits, leads to an Associate of Applied Science degree.

A one-year Technical Certificate requiring 33 credits is also available.

AAS/Technical Core Courses (27 Credits)
*Technical Certificate (18 Credits)

*DCT	102	Technical Graphics	3
*DCT	103	CAD Fundamentals	3
*DCT	104	Product Drafting	3
*DCT	105	Facilities Design and Layout	3
*DCT	106	Descriptive Geometry	3
*DCT	107	Advanced CAD	3
DCT	202	CAD Programming Language	3
DCT	203	Statics and Strengths of Materials	3
DCT	217	Product Design	3

AAS/General Education Requirements (18 Credits)
*Technical Certificate (12 Credits)

*ENG	101	English Composition	3
*MAT	101	Algebra I	3
*MAT	103	Geometry/Trigonometry	3
*SOC	101	Human Relations	3
SCI	103	Physics I	3
ENG	201	Technical Writing	3

AAS/Regional Courses (19 Credits)
Technical Certificate (3 Credits)

Architectural Drafting Specialty

*DCT	109	Construction Materials/Specifications	3
DCT	204	Architectural CAD	3
DCT	210	Surveying	3
DCT	211	Commercial Structures I	3
DCT	212	Commercial Structures II	3
DCT	213	CAD Mapping	3
DCT	288.01	Portfolio Presentation	1

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Mechanical Drafting Specialty

*AMT	101	Manufacturing Processes	3
DCT	214	Machine Design	3
DCT	216	Jig and Fixture Design	3
DCT	218	CAD/CAM Design	3
MTT	101	Basic Machine Tool	3
MTT	204	CNC Programming I	3
DCT	288.01	Portfolio Presentation	1

Total AAS Credits   **64**
*Total Technical Certificate Credits   **33**

DRAFTING/CAD TECHNOLOGY COURSE DESCRIPTIONS

DCT 102 - TECHNICAL GRAPHICS

3 Credits

An introductory course which strengthens basic drafting skills to a proficient, technician level. Areas of study include geometric constructions, orthographic projections, sectioning, dimensioning and introductory tolerancing. Entry level course.

DCT 103 - CAD FUNDAMENTALS

3 Credits

This course will introduce the student to the fundamentals of CAD (Computer -Aided Drafting). Topics covered include: CAD overview; basic DOS commands, creating entities, layering, editing, text, dimensioning, screen control and plotting. Must be taken concurrently with other program courses.

DCT 104 - PRODUCT DRAFTING

3 Credits

An introduction to the "set" concept of working drawings, both in detailing and assembly. Isometric and perspective drawings for illustration are also presented. Fastening devices, thread symbols and nomenclature, surface texture symbols, classes of fits, and the use of parts and title blocks are also covered. Prerequisite DCT 102 or equivalent.

DCT 105 - FACILITIES DESIGN AND LAYOUT

3 Credits

Focuses on the various aspects of building construction, structural applications, planning and traffic flow analysis. Presentation drawings and working drawings are a part of this course. Prerequisite DCT 102 or equivalent.

DCT 106 - DESCRIPTIVE GEOMETRY

3 Credits

This course introduces fundamental principles in developing graphical solutions to engineering problems. Many of the topics covered in this course will lend themselves to sheet metal developments. Auxiliary views and bend allowances are also covered in this course. Prerequisite DCT 102 or equivalent.

DCT 107 - ADVANCED CAD

3 Credits

This course is designed to continue the CAD principles introduced in the DCT 103 course. Topics covered include 3-D and solid modeling, advanced graphic manipulation, and block creations, and other system configurations. Prerequisite DCT 103.

DCT 202 - CAD PROGRAMMING LANGUAGE

3 Credits

This course introduces the advanced CAD student to the AutoLISP Language used in the writing of AutoCAD programs. The student will also learn several "customization" tools to enable CAD graphics to be done more efficiently. Prerequisite DCT 107.

DCT 203 - STATICS AND STRENGTH OF MATERIALS

3 Credits

This course is designed to instruct the student on the fundamentals of theory and application of mechanics. Areas covered are vectors, equilibrium; applications involving beams, trusses, and cables. Stress-strain relationships, axially loaded members, torsion, shear and bending, moment diagrams, and deflection of beams and connections are also studied. Prerequisites MAT 101 and/or MAT 103.

DCT 204 - ARCHITECTURAL CAD

3 Credits

This is an advanced CAD course in which the architectural student will generate several types of detail drawings with emphasis on structural steel detailing. Prerequisite DCT 107.

DCT 210 - SURVEYING

3 Credits

Introduces fundamentals of surveying, including use of the transit through state of the art technology using a total electronic (computer assisted) workstation. Prerequisite MAT 103.

DCT 211 - COMMERCIAL STRUCTURES I

3 Credits

Focuses on the planning and detailing of a commercial structure. Attention is directed to the foundation plan, wall sections, and elevations for the concrete and office structure. Prerequisite DCT 105.

DCT 212 - COMMERCIAL STRUCTURES II

3 Credits

Continues the planning and detailing drawings of the commercial structure introduced in DCT 211. Attention is directed to mechanical, electrical, and HVAC drawings required of the commercial building being detailed. Prerequisite DCT 105.

DCT 213 - CAD MAPPING

3 Credits

This advanced CAD course introduces the student to mapping software used in the civil engineering field. Applications include: plat mapping, and topographical contouring and section cuts (profiles). Prerequisite DCT 107.

DCT 214 - MACHINE DESIGN

3 Credits

This non-calculus course is designed to present practical solutions to mechanical design problems. The student will study the design of machine elements including: drive mechanisms, indexing devices, shafting hardware and maintenance, and power assist methods such as electric/electronic, hydraulics, and pneumatics. Prerequisite DCT 104.

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DCT 216 - JIG AND FIXTURE DESIGN

3 Credits

This course introduces the student to the tool and die detailing. Emphasis is placed on tooling locators, supports, holding devices, and clearances, as they pertain to jig, fixtures and dies. Prerequisite DCT 104.

DCT 217 - PRODUCT DESIGN

3 Credits

This course provides the student an opportunity to utilize all previously required knowledge in product drafting , to design or redesign a consumer product. Function, esthetics, cost economics, and marketability are studied. A research paper and sales presentation drawing are required as a thesis project.

DCT 218 - CAD/CAM DESIGN

3 Credits

This advanced CAD course covers the development of various CNC machine tool routines. Primary emphasis will be on the control of CNC equipment. Related areas of discussion will include material handling and robotics applications. Prerequisite MTT 204

DCT 288.01 - PORTFOLIO PRESENTATION

1 Credits

A Special Course provides the student with the opportunity to develop a resume and present their portfolio for program review to help in seeking employment within their field of study.

ELECTRONICS TECHNOLOGY

The Electronics Technology program provides comprehensive instruction to prepare students for entry into a wide range of positions in the electronics field. While receiving a core of general electronics, the student has a choice of various technical electives in which to specialize in areas such as industrial electronics and digital and communication technology. Post-curriculum specialization courses are also available.

Completion of the two-year Electronics Technology program of 69 credits leads to an Associate of Applied Science degree.

ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

AAS/Technical Core Courses (36 Credits)

ELT	100	Circuits I	4
ELT	101	Circuits II	4
ELT	102	Electronic Circuits Lab	2
ELT	103	Digital Principles	4
ELT	104	Computer Fundamentals for	
		Technology	3
ELT	105	Solid State I	4
ELT	106	Digital Applications	4
ELT	201	Solid State II	4
ELT	202	Microprocessors	4
ELT	204	Linear Integrated Circuits	3

General Education Requirements (21 Credits)

ENG	101	English Composition I	3
ENG	201	Technical Writing	3
SOC	101	Human Relations	3
MAT	104	Algebra/Trigonometry I	3
MAT	105	Algebra/Trigonometry II	3
SCI	103	Physics I	3
SCI	105	Physics II	3

AAS/Regional Courses (12 Credits)

For Industrial Electronics Specialty, select two from the following:

ELT	107	Industrial Electronics	4
ELT	203	Introduction to Industrial Controls	3
ELT	288.06	Special Topics in Feedback Circuits	2
IMT	104	Fluid Power Basics	3

Select two from the following:

DCT	103	CAD Fundamentals	3
AMT	102	Introduction to Robotics	3
AMT	201	Manufacturing Systems Control	3
CPT	106	UNIX Operating Systems or	3
CPT	209	"C" Programming	3

For Digital/Communications Specialty, select two from the following:

ELT	108	Communications Electronics	3
ELT	208	Microwave	3
ELT	209	Advanced Communication Electronics	3

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Revised Program

ELECTRONICS TECHNOLOGY COURSE DESCRIPTIONS

ELT 100 - CIRCUITS I
4 Credits

A study of electrical principals and laws pertaining to DC circuits. The relationship of passive components when used in simple and complex circuits are analyzed. Ohm's law, Kirchhoff's laws, ammeters, voltmeters, ohmmeters, capacitance and power are discussed. Magnetism, magnetic induction, inductance and AC principles are introduced. Prerequisite BSA 051; Corequisite ELT 102; Prerequisite or corequisite MAT 104.

ELT 101 - CIRCUITS II
4 Credits

A study of electrical principles and laws pertaining to alternating current and voltage. DC and AC network theorems, j operator, phasors, reactances, impedances, phase relationships, power, resonance, transformers, polyphase and filter circuits are studied. Prerequisites are ELT 100, ELT 102; Prerequisite or corequisite MAT 105.

ELT 102 - ELECTRONIC CIRCUITS LAB
2 Credits

This course allows hands-on laboratory experience in the understanding of principles taught in ELT 100. Use of basic hand tools and test equipment such as voltmeters, ammeters, ohmmeters and impedance bridges are taught. Student will receive training in troubleshooting skills, safety and care of equipment. Fabrication and soldering techniques are discussed and practiced, culminating with a project fabricated and tested by the student. Prerequisite BSA 051; Corequisite ELT 100; Prerequisite or corequisite MAT 104.

ELT 103 - DIGITAL PRINCIPLES
4 Credits
Introduces digital electronics including logic gates and combinational logic circuits. Binary arithmetic, Boolean algebra, mapping, digital encoders and decoders, multiplexers and demultiplexers, and arithmetic circuits are also studied. SSI and MSI digital integrated circuits are used in this course. Prerequisite BSA 051.

ELT 104 - COMPUTER FUNDAMENTALS FOR TECHNOLOGY
3 Credits
Provides an introduction to microcomputer hardware, applications and software. Emphasis is placed on computer literacy, disk operating systems (DOS), and computer programming. Commonly used microcomputer applications are surveyed. Prerequisite BSA 051.

ELT 105 - SOLID STATE I
4 Credits
A study of the characteristics and applications of semiconductor devices and circuits. Topics covered are signal and rectifying diodes, bipolar transistors, single and multistage voltage amplifiers, AC/DC load lines, biasing techniques, equivalent circuits and power amplifiers. Prerequisite or corequisite ELT 101.

ELT 106 - DIGITAL APPLICATIONS
4 Credits
A continuation of ELT 103. Course provides an advanced study of digital systems including memory and analog-digital conversions. The construction, design and operation of timing circuits, display systems, registers, counters and arithmetic circuits are conducted. Microprocessor circuits and systems are introduced. Prerequisite ELT 103.

ELT 107 - INDUSTRIAL ELECTRONICS
4 Credits
An overview of electronics applied in the industrial setting. Introduction to various applications of the industrial system and how electronics are applied to these systems. Introduces power machines, polyphase systems, transducers, power transformers, SCRs and other thyristors. Prerequisite ELT 103 and 105 is recommended but not required;Prerequisite or corequisite ELT 201.

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ELT 108 - COMMUNICATIONS ELECTRONICS
3 Credits

An overview of communication circuits with an emphasis on AM, FM, SSB and stereo transmitter and receiver systems. Includes noise, modulation/demodulation principles, phase-locked loop, RF amplifiers, automatic gain control, detectors, limiters and discriminators. Prerequisite ELT 201.

ELT 109 - TELECOMMUNICATIONS
3 Credits

Examines various methods in transmitting digital data from one location to another. Time and frequency division multiplexing are covered. Includes pulse-code and delta modulation, telemetry, error detection and correction and simple networks. Prerequisites ELT 104, 105 and 106.

ELT 113 - BASIC ELECTRICITY
3 Credits

Study of electrical laws and principles pertaining to DC and AC circuits. Includes current, voltage, resistance, power, inductance, capacitance, and transformers.

ELT 201 - SOLID STATE II
4 Credits

A study of the applications of special-purpose diodes, thyristors and unipolar transistors. Frequency effects and response of amplifiers are discussed. Includes discreet, FETs, UJTs, oscillators, regulated power supplies and switching regulators. Prerequisite ELT 105.

ELT 202 - MICROPROCESSORS
4 Credits

Introduction to microprocessor system organization, operation, design, troubleshooting and programming. A microprocessor instruction set is investigated and analyzed for its operation. Laboratory experience includes building and programming a simple computer and working with microprocessor trainers. Prerequisites ELT 104, 105 and 106.

ELT 203 - INTRODUCTION TO INDUSTRIAL CONTROLS
3 Credits

Basics of industrial controls as related to industrial electronics.

Includes basic and pilot devices, ladder static and control logic, industrial schematics, programmable and variable frequency controllers. Prerequisites ELT 103 and 107.

ELT 204 - LINEAR INTEGRATED CIRCUITS
3 Credits

Introduction to Operational Amplifiers (Op Amps) characteristics and operations. Covers filters, inverting and noninverting amplifiers, differential amplifiers, linear regulators, switching regulators, voltage comparators, electronic timers, and multivibrators. Prerequisite ELT 201.

ELT 205 - PERIPHERALS
3 Credits

In-depth study of peripherals used with typical computers and interfacing of the microcomputer with peripherals. The installation, setup, maintenance, repair and replacement of common peripherals are covered. Introduces design of basic circuits and interfacing to various input/output transducers and industrial equipment. Techniques for logical troubleshooting of microcomputer systems are covered. Prerequisites ELT 104, 105 and 106.

ELT 208 - MICROWAVE COMMUNICATIONS
3 Credits

Focuses on microwave transmission lines, waveguides, waveguide components, including hybrid couplers, attenuators, microwave filters, phase shifters, T-junctions, irises, and microwave tubes. Prerequisite ELT 108.

ELT 209 - ADVANCED COMMUNICATIONS ELECTRONICS
3 Credits

The basics of antenna principles and wave propagation together with an in-depth study of matching techniques for transmission lines. Includes the Smith Chart and a thorough study of television operation. Prerequisite ELT 108.

ELT 288.06 - SPECIAL TOPICS IN FEEDBACK CONTROL CIRCUITS
2 Credits

An overview of the electronics that applies to automated process and AC/DC servo control circuits. Various feedback control circuits are introduced. Prerequisite ELT 103 and 107.

HEATING, AIR CONDITIONING AND REFRIGERATION TECHNOLOGY

The Heating, Air Conditioning and Refrigeration Technology program at Ivy Tech is designed to offer students the preparation for initial employment in this field. The program also offers the Professional Air Conditioning Technician Training (PACTT) program which is a cooperative education agreement with heating and air conditioning contractors

Heating, air conditioning and refrigeration technicians may work in service, installation, design, sales, or estimation areas. Entry level positions may be found with HVAC contractors in factories, hospitals, theaters, restaurants, office buildings, government agencies, service firms or through self-employment.

PACTT is a program that consists of academic instruction with lab experiences provided by Ivy Tech and a cooperative work experience with members of the ACCA Chapter of Indianapolis. The PACTT program uses alternating semesters of classroom instruction and cooperative work experience. A student must be sponsored by a contractor with membership in the ACCA Chapter.

A two-year program requires 63 credits and leads to the Associate of Applied Science degree. In addition, a one year program requires 33 credits and leads to a Technical Certificate.

AAS/Technical Core Courses   (39 Credits)
*Technical Certificate   (30 Credits)

*HEA	101	Heating Fundamentals	3
*HEA	103	Air Condition and Refrigeration I	3
*HEA	104	Heating Service	3
*HEA	106	Air Condition and Refrigeration II	3
*HEA	107	Duct Fabrication and Installation	3
*HEA	201	Cooling Service	3
*HEA	202	Electrical Circuits and Controls	3
HEA	203	Heat Loss and Gain Calculation	3
*HEA	205	Heat Pump Service	3
HEA	206	Advanced Cooling Service	3
HEA	207	HVAC Codes	3
*ELT	113	Basic Electricity	3
*IMT	103	Motors and Motor Controls	3

AAS/General Education Courses   (18 Credits)
*Technical Certificate   (3 Credits)

*REL	111	Technical Math I	3
ENG	101	English Composition	3
MAT	101	Algebra I	3
SCI	101	Physical Science	3
SOC	101	Human Relations	3

Select one from the following:
ENG 102, ENG 103, ENG 201   3
Select one from the following:
SOC 106, SOC 107   3

AAS/Regional Courses   (6 Credits)

Select two from the following:
HEA 204, HEA 209; ELT 104; HEA 210, 212, 213, 214

Total AAS Credits	**63**
*Total Technical Certificate Credits	**33**

HEATING, AIR CONDITIONING AND REFRIGERATION COURSE DESCRIPTIONS

HEA 101 - HEATING FUNDAMENTALS
3 Credits

Introduces fundamentals applicable to the heating phase of air conditioning. Includes types of units, parts, basic controls, functions, and applications. Emphasizes practices, tools and meter uses, temperature measurement, heat flow, and tubing installation and connecting practices.

HEA 103 - AIR CONDITIONING AND REFRIGERATION 1
3 Credits

Introduction to compression systems used in mechanical refrigeration and air conditioning. Includes the refrigeration cycle, compressors, receivers, evaporators, condensers, metering devices, refrigerants, temperature conversions, absolute temperatures and gas laws. Introduction to soldering, brazing and oxy acetylene gas welding apparatus and basic mechanical procedures used in industry.

HEA 104 - HEATING SERVICE
3 Credits

Covers procedures used to analyze mechanical and electrical problems encountered when servicing residential heating systems, including gas, oil, electric and hydronic heating equipment. Electrical schematics and diagrams, combustion testing, venting and combustion air requirements, installation and service procedures are considered.

HEA 106 - AIR CONDITIONING AND REFRIGERATION 2
3 Credits

A continuation of refrigertation fundamentals with further study of compressors, metering devices and an introduction to troubleshooting procedures. Includes procedures of cleaning up a system following compressor burnout, and analysis of how a single problem affects the rest of the system.

HEA 107 - DUCT FABRICATION AND INSTALLATION
3 Credits

A specialized course for Heating, Air Conditioning and Refrigeration students with emphasis placed on reading blueprints common to the sheet metal trade, floor plans, elevations, section, detail and mechanical plans. The student will develop a layout of duct work and fittings, and fabrication of these parts, including proper use of handtools, commonly used in sheet metal trade and shop equipment used to fabricate duct work and fittings.

HEA 201 - COOLING SERVICE
3 Credits

Service procedures for residential air conditioning and refrigeration systems. Includes low voltage controls (24 volts) and line voltage controls such as defrost timers, defrost heaters, relays and cold controls, with emphasis on schematic and pictorial diagrams. Emphasis is placed on installation and troubleshooting unitary and split system cooling.

HEA 202 - ELECTRIC CIRCUITS AND CONTROLS
3 Credits

Study of various types of controls used in heating, air conditioning, and refrigeration. These include: gas, oil, and cooling controls, thermostats, humidistats, aqua-electronic thermostats and temperature controls. Also applications, operation of controls and their integration in complex control systems, aided by the use of schematic and pictorial diagrams. Component troubleshooting and testing will be included.

HEA 203 - HEAT LOSS AND GAIN CALCULATION
3 Credits

Methods used in calculating heat loss and gain in sizing units for residential and light commercial applications. Includes the use of standard HVAC industry procedures and manuals.

HEA 204 - COMMERCIAL REFRIGERATION
3 Credits

Examines air conditioning and refrigeration systems for commercial use, including medium and low temperature application, refrigeration accessories, metering devices and controls used on commercial refrigeration equipment.

HEA 205 - HEAT PUMP SERVICE
3 Credits

Examines heat pumps of all types, emphasizing residential applications and system control balance points, COP ratings, pictorial and schematic diagrams. System diagnosis, troubleshooting and performance evaluation will be included.

HEA 206 - ADVANCED COOLING SERVICE
3 Credits

Considers methods of troubleshooting electrical and mechanical components of air conditioning and refrigeration systems. This service course includes the proper diagnosis procedures for system components such as compressors, condensors, evaoprators, defrost controls, metering devices as well as accessories and their relationship to the system.

HEA 207 - HVAC CODES
3 Credits

Study of state and local codes covering installation, repair, alteration, relocation, replacement and erection of heating, ventilation, cooling and refrigeration systems. Includes uniform mechanical code, electrical code, gas code and venting code.

HEA 209 - PSYCHROMETRICS
3 Credits

A study of the properties of air during the operational variations of temperature and humidity. The atmospheric conditions and the impact of those conditions on the heating-cooling processes and the design of systems for residential and commercial structures are discussed.

HEA 210 - ALTERNATE ENERGY FUNDAMENTALS
3 Credits

Solar energy :methods of collecting, using and storing energy for heating and cooling work. Covers space heating and cooling, domestic and commercial hot water and swimming pool heating. Air and water system design, collector cells, pump sizing, pipe and duct sizing, design of distribution systems, and operational cost and savings.

HEA 212 - ADVANCED HVAC CONTROLS

3 Credits

Covers control systems beyond ordinary residential and single zone commercial jobs. Includes solid state controls, zoning controls, modulating controls, low ambient controls, heat recovery and energy management controls, economizer controls and pneumatic controls.

HEA 213 - ESTIMATING, MANAGEMENT AND SALES

3 Credits

The use of blueprints, specifications, AIA documents, application data sheets, bid forms and contracts in estimating materials and labor in the HVAC business. Also includes advertising, direct labor, indirect labor, overhead, warranty coverages, taxes, permits, subcontracts, margins, mark-ups and profit. Students will estimate service contracts and study service organization, service procedures, record keeping, parts inventory control, and insurance liability.

HEA 214 - APPLIED DESIGN

3 Credits

Study of complete air conditioning systems through analysis of a specific job. Includes calculation of heat losses and gains, selection of equipment and layout distribution systems, working drawings and determination of operation and maintenance costs.

INDUSTRIAL LABORATORY TECHNOLOGY

The Industrial Laboratory Technology program provides instruction to prepare students for entry level positions as industrial laboratory technicians with specialties in Electronic Instrumentation, Environmental Science (Wastewater Treatment), or Quality Control. Coursework begins with process control including temperature, pressure, flow, and level systems. Instrumentation is covered from sensors, transducers, and manual instrumentation through fully automated testing and control. Instrument/computer interfacing is included in all options, but stressed in the Electronic Instrumentation specialty; environmental problems are addressed in all options, but are stressed in the Environmental Science specialty; quality concerns are considered in all options, but stressed in the Quality Control specialty.

This two year, Associate of Applied Science Degree program requires 64 credits in each of the three specialty areas: Electronic Instrumentation, Environmental Science, and Quality Control. Students are advised to take regional electives pertaining to their selected specialty of study.
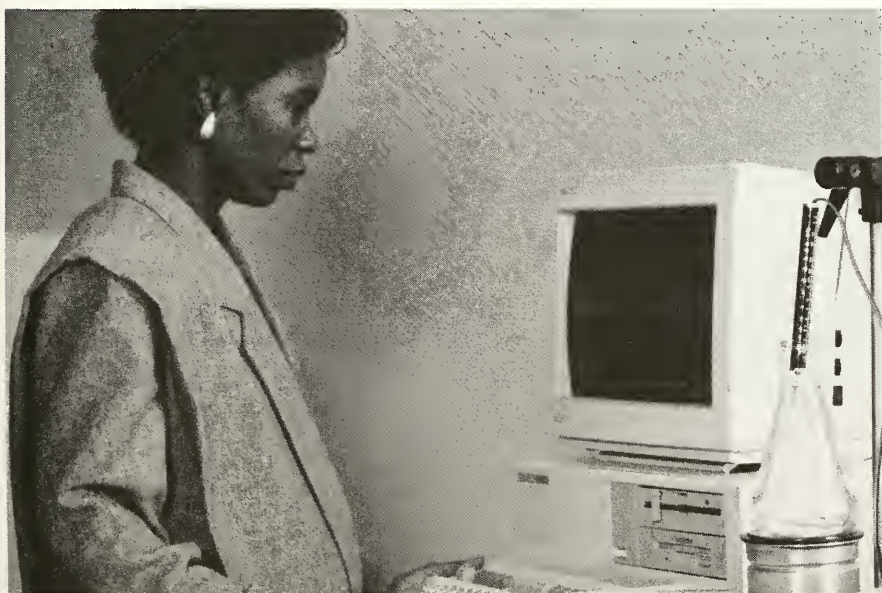
AAS/Technical Core Courses (30 Credits)

ILT	101	Industrial Laboratory Techniques	3
ILT	201	Industrial Instrumentation and Techniques I	3
ILT	202	Industrial Instrumentation and Techniques II	3
ILT	203	Environmental Monitoring	3
ELT	104	Computer Fundamentals for Technology	3
IST	101	Quality Control Concepts and Techniques I	3
IST	102	Techniques of Supervision I	3
SCI	103	Physics I	3
SCI	105	Physics II	3
MAT	108	Statistics	3

AAS/General Education Requirements (24 Credits)

ENG	101	English Composition I	3
ENG	103	Speech	3
ENG	201	Technical Writing	3
SOC	101	Human Relations	3
MAT	104	Algebra/Trigonometry I	3
MAT	105	Algebra/Trigonometry II	3
SCI	107	Chemistry	3
SCI	111	Microbiology	3

AAS/Regional Courses (10 Credits)

Electronic Instrumentation:

AMT 101, MTT 108, ILT 288.03, ILT 288. 02

Environmental Science: (Wastewater Treatment):

PTT 104, PTT 208, ILT 288.01, ILT 288.02

Quality Control:

ILT 288.02, SPC 101, SPC 108, SPC 111

Total AAS Credits   **64**

INDUSTRIAL LABORATORY TECHNOLOGY
COURSE DESCRIPTIONS

ILT 101 - INDUSTRIAL LAB TECHNIQUES
3 Credits

Virtually every manufacturing or industrial service facility uses a laboratory in some part of the production, process control, quality control, test, and/or research work accomplished within the company. The industrial lab technician commonly works in and often supervises such labs. This lecture course will familiarize students with the day-to-day activities including the scope of the work performed, relationship between lab activities and the success of the establishment, instrumentation and computer hardware and software for data manipulation and analysis, and personnel inter-relationships and functions. Process control terminology, systems, and techniques are emphasized.

ILT 201 - INDUSTRIAL INSTRUMENTATION AND TECHNIQUES I
3 Credits

This is a hands-on, intensive lecture/lab course which emphasizes precision measurement via pressure, strain, force, flow, and level gauges. Instruction will cover the related probes, sensors, transducers, computer interfaces (IEEE 488 and RS 232), computer hardware and peripherals, computer software necessary for the acquisition, summarization, analysis, and presentation of data. This course should be followed by Industrial Instrumentation and Techniques 2 (ILT 202). Prerequisites ILT 101, MAT 105, SCI 103.

ILT 202 - INDUSTRIAL INSTRUMENTATION AND TECHNIQUES II
3 Credits

This course is a continuation of ILT 201 (Industrial Instrumentation and Techniques 1). It is a hands-on, intensive lecture/lab study which emphasizes wet chemistry and instrumental chemistry applications. Data will be collected both manually and automatically via probes/sensors and analyzed through the utilization of computer software. Specific areas covered include wet techniques such as gravimetric, titrimetric, and electrode based procedures and instru-

mental techniques such as spectrophotometric, chromatographic, and polarographic procedures. Prerequisites ILT 201, SCI 107.

ILT 203 - ENVIRONMENTAL MONITORING

3 Credits

The United States Environmental Protection Agency (USEPA) and other governmental and non-governmental organizations are interested in protecting the ecosystems of the earth from harmful changes and even enhancing those ecosystems in terms of future growth. Because manufacturing and industrial service companies use water, air, and a variety of other chemical compounds in their processes, the potential exists for dangerous chemicals being produced and then released into the environment so that humans, animals, plants, and non-living substances are altered in negative ways. In the past, there have been serious abuses — and there continue to be. Monitoring the environment, hopefully, will allow for the identification, analysis, and prevention of problems associated with the destruction of quality air, water, and land so vital to the survival of all living things, as well as, the beauty of the earth's natural wonders.

ILT 288.01 - ADVANCED MUNICIPAL WASTEWATER TREATMENT

3 Credits

The basics of municipal wastewater treatment are briefly reviewed and then study continues on the special processes of advanced wastewater treatment. Emphasis is placed on ammonia and phosphorus removal, process control, filtration, disinfection, and coagulation. This course is excellent preparation for any student desiring to take Indiana's wastewater treatment certification test at the 2, 3, or 4 level. The state usually offers the test in May and November of each year. Prerequisite PTT 104.

ILT 288.02 - ELECTRONIC MEASURING

1 Credit

This course covers the basic electricity and electronics which are necessary for understanding instrumentation from an operator point of view. Electrical and electronic components, parallel and series circuits, the Wheatstone bridge, use of the digital multimeter, and use of the analog and digital storage oscilloscopes will be covered. Sensors and their placement, transducers and their appropriate use,

and sensor/instrument interfacing will be studied in a lab format. Prerequisite MAT 104.

ILT 288.03 - AUTOMATED TESTING
3 Credits

This course is intended for ILT Program students, working technicians, and engineers who are in need of a basic understanding of the IEEE-488 computer/instrument interface. The production and testing of sophisticated electrical, electronic, and electromechanical equipment requires the latest technology. The powerful general purpose instrumentation bus (GPIB) is the interface commonly chosen to provide the communication link between instruments which read the data that enables the technician/engineer to implement, and control automatically through software, any test that can be performed manually (and some that can't). Since the IEEE-488 (GPIB) interface is present in many instruments, and computers with IEEE are common, a complete automatic test system is possible at reasonable cost — if the technician/engineer is knowledgeable enough about the system's capabilities and operation to take advantage of the power available. Prerequisite ILT 201.

IST 101 - QUALITY CONTROL CONCEPTS AND TECHNIQUES I
3 Credits

This course covers the latest quality control concepts and techniques as used in industry to manufacture a quality product and maintain production. Emphasis is placed on the modern manufacturing requirement including instrumentation, organization, and quality assurance.

PTT 104 - PLANT OPERATIONS - SANITARY
3 Credits

The basic principles of municipal and industrial wastewater treatment are studied including pre-treatment, primary treatment, secondary treatment, and advanced treatment. Discussion topics will include disinfection, sludge handling, design parameters, and plant control. This course is excellent preparation for any student desiring to take Indiana's wastewater treatment certification test at the 1 or A level. The state usually offers the test in May and November of each year.

PTT 208 - PLANT OPERATIONS - INDUSTRIAL
3 Credits

The special problems of industrial wastewater treatment are studied with emphasis on the major classifications of liquid industrial wastes including neutralization, equalization, proportioning, and removal of troublesome solids. Cyanide and chromium treatment will be discussed. This course is excellent preparation for any student desiring to take Indiana's wastewater treatment certification test at the B, C, or D level. The state usually offers the test in May and November of each year. Prerequisite PTT 104.

SPC 101 - STATISTICAL PROCESS CONTROL
3 Credits

The fundamental tools of statistical process control as used in industry to reduce costs, increase productivity, and maintain control over manufacturing processes at predictable quality levels are studied. Emphasis is placed on prevention of control problems rather than detection. Prerequisite MAT 108.

SPC 108 - QUALITY CONTROL ENGINEERING PRINCIPLES AND TECHNIQUES
3 Credits

Principles and techniques of modern quality control engineering are presented with attention to management, engineering economics, and production factors. Emphasis is placed on the assurance of quality at the hardware, processing, and systems level. Prerequisite MAT 108.

SPC 111 - RELIABILITY OBJECTIVES
3 Credits

This course introduces the principles of reliability engineering. The mathematical and physical bases of reliability are covered and the basic elements are applied to data analysis. Practical applications involving manufacturing processes and production operations are emphasized. Prerequisite MAT 108.

INDUSTRIAL MAINTENANCE TECHNOLOGY
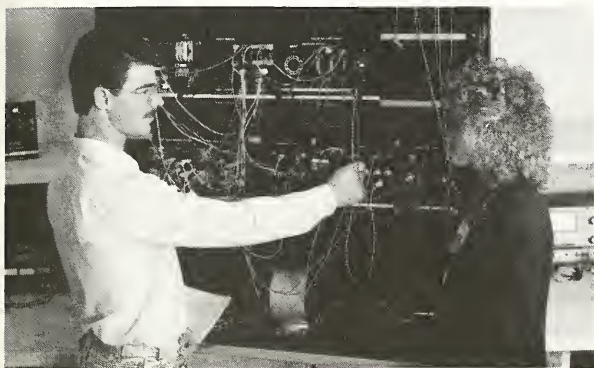
The two-year Industrial Maintenance Technology program requires 70 semester hours for completion and leads to an Associate of Applied Science degree. The program provides instruction in advanced technologies for individuals seeking employment as technicians who are involved in maintaining industrial facilities and equipment. Competencies necessary for industrial maintenance technicians include installation, maintenance and troubleshooting of electrical, mechanical and fluid power systems; basic heating, air conditioning and welding techniques; technical interpretation; automated systems application; safety; and communications, interpersonal relations, math, science and computer skills. Students specializing in welding receive instruction in varied types and styles of welding. These skills are in high demand in the industrial, automotive, air craft, and structural steel industries.

Industrial maintenance technicians work in a variety of industrial and business settings including manufacturing, production, building management, hotels, hospitals, apartment complexes, and other service-oriented industries. Students specialize in such areas as electrical, mechanical, facilities, and welding.

A Technical Certificate is also available in Welding Specialty and Associate of Applied Science degrees are available in the Electrical, Mechanical, and Facilities specialties.

Students who complete the welding degree or Technical Certificate are eligible to apply for national welding certification which is recognized by American Welding Society.

(See Welding program sheet.)

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ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

AAS/Technical Core Courses   (39 Credits)

IMT	102	Introduction to Print Reading	3
IMT	103	Motors and Motor Controls	3
IMT	104	Fluid Power Basics	3
IMT	105	Heating and Air Conditioning Basics	3
IMT	201	Fluid Power Systems	3
IMT	202	Electrical Circuits	3
IMT	203	Machine Installation	3
IMT	204	Machine Maintenance	3
IMT	205	Programmable Controllers I	3
AMT	102	Introduction to Robotics	3
ELT	113	Basic Electricity	3
MTT	101	Machine Fundamentals I	3
WLD	114	Introductory Welding	3

AAS/General Education Courses   (18 Credits)

ENG	101	English Composition I	3
MAT	101	Alegbra I	3
MAT	104	Algebra/Trigonometry I	3
SOC	101	Human Relations	3
SCI	103	Physics I	3
ELT	104	Computer Fundamentals for Technology	3

AAS/Regional Courses   (13 Credits)

Electrical Specialty: IMT 288, MACHINE DIAGNOSIS AND REPAIR ELECTRICAL; IMT 122, ELECTRICAL WIRING FUNDAMENTALS; BCT 201, RESIDENTIAL WIRING; IMT 288, ELECTRICAL CONTROL OF FLUID POWER; IMT 288, APPLICATIONS OF THE NEC CODE BOOK.

Mechancial Specialty: IMT 288, MILLWRIGHT I; IMT 288, PREVENTIVE MAINTE- NANCE; IMT 120, METALLURGY FUNDAMENTALS; IMT 288, ELECTRICAL CONTROL OF FLUID POWER; IMT 288, PUMPS.

Facilities Speciality: BCT 201,RESIDENTIAL WIRING; BCT 202, PLUMBING FUNDAMENTALS; BCT 203, MASONRY CONCRETE FUNDAMENTALS; BCT 207, CARPENTRY-LIGHT COMMERCIAL; BCT 214, WALL AND FLOOR COVERINGS

Total AAS Credits   70

INDUSTRIAL MAINTENANCE TECHNOLOGY COURSE DESCRIPTIONS

IMT 102 - INTRODUCTION TO PRINT READING
3 Credits

A basic course in reading and interpreting machine shop symbols, welding blueprints, and working drawings used in trades and crafts. Attention is given to dimension, shape, fabrication and assembly. Applies basic mathematics in the solution of print and performance problems.

IMT 103 - MOTORS & MOTOR CONTROLS
3 Credits

This course is designed to give each student a complete understanding of all types of electric motors, extending from the small shaded pole fan motors to the large three phase motors. The student will receive instruction in motor theory magnetism and how it affects motor rotation. Motor starting components and protective devices for motor circuits will be explained and shown in detail. Heat dissipation from a motor, motor slippage and how frequency affects a motor will be discussed. Multi-speed motors and how they are wired to obtain different speeds, and capacitors and how they affect a motor circuit will be included.

IMT 104 - FLUID POWER BASICS
3 Credits

This course introduces the student to fluid power principles and components. The student will learn basic circuit design, symbols, and schematic diagrams to build a foundation for career work in the technology.

IMT 105 - HEATING AND AIR CONDITIONING BASICS
3 Credits

Fundamentals of heating and compression systems used in mechanical refrigeration and air conditioning. Includes combustion process, heat flow, temperature measurement, gas laws and heating and refrigeration cycles and components used in systems. Introduces basic mechanical service procedures used in industry.

IMT 108 - MEASUREMENTS AND CALIBRATION
3 Credits

An introduction to the field of industrial motor controls. Develops knowledge of the symbols and diagrams used in various methods of control. Emphasizes line diagrams, ladder logic and development of troubleshooting skills.

IMT 120 - METALLURGY FUNDAMENTALS
3 Credits

This course studies the fundamentals of thermodynamics and reactions occurring in metals subjected to various kinds of heat treatment. Includes classification and properties of metals; chemical and physical metallurgy; theory of alloys; heat treatment principles as applied to ferrous and non-ferrous materials, tests to determine uses; heat treatment for steels, special steels, and cast iron; powder metallurgy; use of gas and electric furnaces and their controls.

IMT 121 - INDUSTRIAL SAFETY
3 Credits

Covers Occupational Safety and Health standards and codes with emphasis on applications of codes to typical work situations. Includes emergency first aid, safety protection, eye protection, chemical handling. Covers employer and employee rights, as well as violations, citations, penalties, variances, appeals, record keeping.

IMT 122 - ELECTRICAL WIRING FUNDAMENTALS
3 Credits

Covers National Electrical Code and its relationship to residential and commercial wiring. Includes mechanical installation of hardware, metering equipment, lights, switches, and design. Tool use as well as material selection is discussed.

IMT 201 - FLUID POWER SYSTEMS
3 Credits

This course introduces the student to complex fluid power circuits. The student will learn to design, analyze, and troubleshoot complex circuits using schematic diagrams. This course studies detailed construction of typical industrial fluid power components. Students will disassemble and repair fluid power components in the lab.

IMT 202 - ELECTRICAL CIRCUITS
3 Credits

Fundamentals of single- and three-phase alternating current, including parallel circuits, resistance, inductance, switching, fusing, current requirements, transformer applications and motor control. Also, basics of mechanical and electrical installations emphasizing tool use and material selection. Includes electrical troubleshooting diagnosis and repair.

IMT 203 - MACHINE INSTALLATION
3 Credits

Introduces installation and rigging and use of proper hand, power tools and measuring instruments.

IMT 204 - MACHINE MAINTENANCE
3 Credits

Examines procedures for the removal, repair and installation of machine components. Methods of installation, lubrication practices, and maintenance procedures for industrial machinery are included.

IMT 205 - PROGRAMMABLE CONTROLLERS I
3 Credits

Introduces the basic theory, operation, and programming of programmable controllers .

IMT 206 - PROGRAMMABLE CONTROLLERS II
3 Credits

In-depth study of programmable controllers. Emphasizes program language, installation, maintenance and applications.

IMT 288.01 - 288.09 - SPECIAL TOPICS IN INDUSTRIAL MAINTENANCE TECHNOLOGY
1-5 Credits

A Special Topics Course provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area.

BCT 201 - RESIDENTIAL WIRING
3 Credits

Covers the practice of residential wiring, including electrical service, metering equipment, lighting, switches, outlets and other common components. Also includes methods of installation and maintenance of the residential wiring system in accordance with the current National Electrical Code.

BCT 202 - PLUMBING FUNDAMENTALS
3 Credits

The operation and function of home plumbing systems. Introduces pipe drawings, isometric pipe layout and blueprint symbols. Roughing in plumbing and installing drainage, water systems, fixtures, and water heaters in compliance with the plumbing code.

BCT 203 - MASONRY CONCRETE FUNDAMENTALS
3 Credits

Materials and methods of construction with concrete block, brick and forming for poured concrete. Includes study in preparation of the building site.

BCT 207 - CARPENTRY-LIGHT COMMERCIAL
3 Credits

Introduces carpentry skills required in light commercial construction. Focuses on construction methods and materials used for office buildings, clinics, small churches, and other non-residential structures.

BCT 214 - WALL AND FLOOR COVERINGS
3 Credits

Emphasis on modern materials and techniques of interior floor and wall coverings. Also instruction on how to assess the durability and maintenance of the materials, and techniques in correct installation procedures.

INDUSTRIAL MAINTENANCE TECHNOLOGY

Welding Specialty

Job opportunities are expected to be quite good for welders in the future. Opportunities for welders exist with power plants, pipelines, fabrication and building trades, welding service shops, utility companies and manufacturing firms. The successful Ivy Tech student will be interested in positions such as welder, flame cutter, inspector, braiser, spot welder, and fabricator.

The welding program at Ivy tech is designed to provide students with the skills necessary for that first job or for upward mobility.

Students who complete the Technical Certificate are eligible to apply for national welding certification which is recognized by the American Welding Society.

Welding Technology - Technical Certificate

Technical Core Courses			(33 Credits)
IMT	102	Introduction to Print Reading	3
IMT	120	Metallurgy Fundamentals	3
WLD	108	Shielded Metal Arc I	3
WLD	109	Oxy-Acetylene Gas Welding & Cutting	3
WLD	110	Welding Fabrication	3
WLD	201	Special Welding Processes	3
WLD	203	Pipe Welding I	3
WLD	206	Shielded Metal Arc II	3
WLD	207	Gas Metal Arc Welding	3
WLD	208	Gas Tungsten Arc Welding I	3
WLD	209	Welding Certification	3

General Education Requirements			(3 Credits)
REL	111	Technical Math	3
Total Technical Certificate Credits			**36**

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WELDING TECHNOLOGY COURSE DESCRIPTIONS

WLD 108 - SHIELDED METAL ARC WELDING I
3 Credits

Covers SMAW safety hazards and safety practices, with emphasis on SMAW theory. Includes welding of ferrous metals and alloys in the flat and horizontal welding positions using single and multipass techniques with various electrodes.

WLD 109 - OXY-ACETYLENE GAS WELDING AND CUTTING
3 Credits

Basic instruction in oxy-acetylene welding, with emphasis on welding techniques in flat, horizontal, vertical, and overhead positions. Includes brazing and flame cutting with attention to safety hazards and safe practices in oxy-acetylene welding and cutting.

WLD 110 — WELDING FABRICATION
3 Credits

Principles of layout, measurements, and joint designs used in the fabrication of steel and aluminum products. Students will construct individual and/or group projects, focusing on tolerances and fit up of metal products. Emphasis is placed on safety procedures in fabrication.

WLD 114 - INTRODUCTORY WELDING
3 Credits

Designed to provide basic skills and fundamental knowledge in oxyacetylene welding and shielded metal for maintenance welders, auto service and body technicians, and individuals in the mining industry. Industry welding practices and detailed study of techniques used in making all weld positions is emphasized. Brazing and flame cutting and electrode selection and uses are also covered. Emphasizes safe practices in welding, cutting and shielded metal arc.

WLD 201 — SPECIAL WELDING PROCESSES
3 Credits

Advanced study of welding methods, processes, techniques, machines and equipment.

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WLD 203 - PIPE WELDING I
3 Credits

Techniques of welding pipe in horizontal, flat, vertical up, and overhead positions with shielded metal arc welding (SMAW) process. Includes electrodes, joint design, and fit up.

WLD 206 - SHIELDED METAL ARC WELDING II
3 Credits

Extensive welding practice on mild steel using 60 to 70 series electrodes. Includes practice in producing single and multi-pass welds in vertical and overhead positions. Safety and health of welders will be stressed.

WLD 207 - GAS METAL ARC (MIG) WELDING
3 Credits

Considers various gas metal welding (GMAW) processes, including microwire, flux-core, innershield, and submerged arc, with emphasis on metallic inert gas welding. Techniques of welding in all positions will be stressed.

WLD 208 - GAS TUNGSTEN ARC (TIG)
WELDING I
3 Credits

Provides extensive experience in gas tungsten arc welding. Demonstrates welds on various types and thicknesses of metal, using all welding positions.

WLD 209 - WELDING CERTIFICATION
3 Credits

Prepares students for certification in shielded arc, MIG and TIG welding through study of the qualifications, procedures, and equipment standards. Includes a survey of qualifying agencies, associations and societies.

Human Services and Health Technologies

The Division of Human Services and Health Technologies responds to the increasing employment opportunities in the expanding human services and health care fields. Ivy Tech prepares competent graduates to become members of human or social service and health care teams. Classrooms, laboratory, and clinical or practicum experiences each prepare students for entry-level or continuing service in social service settings, hospitals, laboratories, extended care facilities, child care centers, physicians' offices, and other human service and health care organizations.

Clinical and practicum courses are required as a substantial element, up to 48% of the total contact hours in some programs. These experiences help develop a student's new knowledge and skills.

The College's Human Services and Health Technologies programs are recognized and accredited by various state and national organizations which provide certification and registration for graduates.

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Applicants are encouraged to apply to the programs in the division early, preferably six to nine months before the start of a semester. A number of courses in selected programs can be taken along with developmental courses, if they are indicated by the assessment evaluation.

Divisional Program/Specialty Chart

Human Services Department

Child Development (TC)

Human Services options (AAS):
- *Child Development*
- *Criminal Justice (TBA)*
- *Generalist*
- *Gerontology*
- Health Care Administration *(AAS) Five Course Option*
- *Substance Abuse*

- Medical Assistant (AAS & TC)
- *Phlebotomy (CDC)*
- *EKG Interpretation (CDC)*
- *Qualified Med Aide (CDC)*
- *Nurse Aide (CDC)*

Registered Nursing (AS)

Health Technologies Department

Practical Nursing (TC)

Surgical Technology (TC)

Respiratory Care (AAS)
- *Respiratory Tech. (CDC)*

Radiologic Technology (AAS)
- *Limited Radiographer (CDC)*

AAS - Associate of Applied Science
AS - Associate of Science
CDC - Career Development Certificate
TC - Technical Certificate

HUMAN SERVICES TECHNOLOGY CHILD DEVELOPMENT SPECIALTY

The Child Care Technology program focuses on early childhood growth and development including adult-child relationships. Emphasis is placed on the development skills and techniques for providing appropriate environments and care for young children. Instruction is provided in the physical, emotional, social, and cognitive areas of early childhood. The training is appropriate for candidates seeking the

Child Development Associate (CDA) credential. The student develops competencies through classroom instruction, observation, and participation in early childhood settings.

Ivy Tech-Indianapolis has an on-campus Child Care Center to meet the need of adult students, College staff and faculty, and locally employed parents and guardians. This licensed center provides on-site training opportunities for practicum students in the Child Development and other Human Services and Health Technologies programs. This model facility is licensed to serve 60 children, ages 2 to 12, from 6:30 a.m. to 10:00 p.m., Monday through Thursdays and until 6:00 p.m. on Friday. The center is open to visitors interested in either the Child Development Program in the Child Care Center services except during naptime, which is 12:30 to 2:30 p.m. daily. Visitors should check with the Center Manager upon arrival. Fees are on a sliding scale.

Employment opportunities include: Day Care, Nursery School, Head Start, Family Day Care, Pediatrics Setting, Nanny Care, School Aide, School Age Care, Employer Sponsored Day Care, Infant/ Toddler Care, Resource and Referral Services, Intergenerational Care, Respite/Sick Care, and other settings as they develop.

Besides the Child Care Center, other practicum sites to gain practical experience include the YWCA, Head Start, and Day Care Centers that serve diverse populations.

The two-year program, requiring 68 credits, has an intensified Child Development curriculum that leads to the Associate of Applied Science Degree in Human Services. The program meets the guidelines for two-year program established by the National Association for the Education of Young Children. A Technical Certificate in Child Development is also available and may be completed in one year. all the credits required in the one-year Technical Certificate Program apply to the two-year Associate Degree program.

ASSOCIATE OF APPLIED SCIENCE DEGREE
HUMAN SERVICES PROGRAM
CHILD DEVELOPMENT (Technical Certificate)

AAS/Technical Core Courses			(44 Credits)
*Technical Certificate			(27 Credits)
*CCT	101	Introduction to Early Childhood Education or	4
		CCT 210, or CCT 211, or CCT 213	
CCT	112	Child Growth and Development II	3
*CCT	103	Health, Safety and Nutrition	3
*CCT	104	Practicum I	3
*CCT	105	Seminar I	2
*CCT	108	Curriculum I	4
*CCT	203	Practicum II	3
*CCT	204	Seminar II	2
*CCT	205	Children's Literature and Language Arts	3
CCT	206	Early Childhood Administration	3
CCT	207	Practicum III	3
CCT	208	Seminar III	2
HST	101	Introduction to Human Services	3
HST	102	Helping Techniques	3
HST	103	Interviewing and Assessment	3
HST	205	Behavioral Reality Techniques or CCT 112, or CCT 212	3
HST	206	Group Process and Skills	3

AAS/General Education Requirements			(18Credits)
*Technical Certificate			(3 Credits)
ENG	101	English Composition I	3
ENG	103	Speech	3
MAT	107	Math of Finance	3
SOC	102	Introduction to Psychology	3
*SOC	104	Introduction to Sociology	3
SOC	105	Introduction to Political Science	3

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See Program Advisor for Regional Course selection.

Total AAS Credits   **68**
*Total Technical Certificate Credits   **33**

CHILD CARE TECHNOLOGY COURSE DESCRIPTIONS

CCT 101 - INTRODUCTION TO EARLY CHILDHOOD EDUCATION

4 Credits

A basic introduction to philosophy of early childhood education. Includes theories of discipline, parent involvement, self-concept, and an overview of various early childhood settings, field trips, and observation.

CCT 102 - CHILD GROWTH AND DEVELOPMENT I

3 Credits

Introductory study of the social, emotional and cognitive development of the young child, conception to age three, as well as quality care and education of toddlers. (Lecture and observation.)

CCT 103 - HEALTH, SAFETY AND NUTRITION

3 Credits

Analysis of basic safety, health, and nutrition needs. Applications as they relate to early childhood programs are emphasized.

CCT 104 - PRACTICUM I

3 Credits

Provides opportunity for practical experience through observation and supervised participation in child care settings. Successful completion of the practicum is required to advance to Practicum II and III.

CCT 105 - SEMINAR I

2 Credits

Companion course to Practicum I. Overview of Child Development Associate (CDA) competencies and observation techniques and skills.

CCT 108 - CURRICULUM I

4 Credits

Examines materials, methods, and teaching for providing creative experiences for the young child. Offers music, movement, art, drama, etc., experiences for use in early childhood settings. Reviews theories of development of the young child.

CCT 112 - CHILD GROWTH AND DEVELOPMENT II

3 Credits

A lecture/laboratory course studying the physical, social, emotional, and cognitive development of the young child, 3-8 years.

CCT 203 - PRACTICUM II

3 Credits

Provides opportunity for practical experience through observation and supervised participation in child care settings. Successful completion of the practicum is required to advance to Practicum 3.

CCT 204 - SEMINAR II

2 Credits

Companion course to Practicum II. Further development of observation skills and techniques will be explored. An examination of positive guidance techniques to meet individual and group needs is presented.

CCT 205 - CHILDREN'S LITERATURE AND LANGUAGE ARTS

3 Credits

Provides for understanding of the development and acquisition of language in order to provide materials and activities for optimum growth. Students will explore and evaluate literature for young children. Introduces audio-visual material, methods, techniques, and various types of equipment which are utilized in early childhood programs.

CCT 206 - EARLY CHILDHOOD ADMINISTRATION

3 Credits

Introduces principles of managing a child care facility. Emphasizes the role of the manager and includes personnel, program administration and fiscal management. Client-community relations are explored.

CCT 207 - PRACTICUM III

3 Credits

Provides opportunity for practical experience through observation and supervised participation in child care settings.

CCT 208 - SEMINAR III

2 Credits

Companion course to Practicum III. The integration of skills is employed to develop a thematic teaching unit.

CCT 210 - INTRODUCTION TO IN-HOME CARE

4 Credits

Offers an overview of child care offered in a home-like setting. The course includes providing a safe, healthy learning environment in the home setting, parent-provider relationships, and recommendations for developing a professional support system.

CCT 211 - SCHOOL AGE PROGRAMMING

3 Credits

Examines materials, methods, and teaching styles for providing creative experiences for the school age child. Other experiences such as appropriate music, movement, art, and drama for use in school age child care settings. Reviews theories of adolescent growth and development.

CCT 212 - ADOLESCENT CHILD GROWTH AND DEVELOPMENT

3 Credits

A lecture/laboratory course studying the physical, social, emotional, and cognitive development of the child, 8-15 years.

CCT 213 - INFANT/TODDLER CARE PROGRAMMING

3 Credits

A lecture/laboratory course studying the physical, social, emotional, and cognitive development of the child 0-36 months.

CCT 215 - CHILD DEVELOPMENT ASSOCIATE PREPA-
RATION
3 Credits

Course meets requirements of the Council for Early Childhood Professional Recognition for academic preparation for the Child Development Associate credential. Course will provide students with the theoretical knowledge to support competent performance in a child care setting.

tion and training to upgrade the skills and knowledge of those currently employed, and providing development and enhancement. Throughout the program, students examine their values and attitudes which reflect upon their interactions with others.

The Associate of Applied Science degree requires 64 credits.

Salary ranges for Human Services are generally from $12,000 to $16,000 per year depending on the agency and the experience of the individual. Toward the end of the course of study, students are required to volunteer 440 hours in approved intern sites. Students need to work with their program advisor to plan the internship experience.

The Human Services Program is anticipating National Program Approval from the Council for Standards in Human Service Education in May 1991.

HEALTH CARE ADMINISTRATION TECHNOLOGY

The Health Care Administration Technology program is designed for individuals who want to become administrators in long-term care health facilities or for those who want to upgrade their skills as nursing home administrators.

Through the program, students will develop an understanding of the rules and regulations governing nursing homes and gain knowledge about the aging process and the needs of older adults. They will also develop an understanding of the different disciplines involved and administrative skills necessary to head a long-term care facility.

The Associate in Applied Science degree program requires completion of 61 credits and prepares the student to take the state and national licensing exams.

ASSOCIATE IN APPLIED SCIENCE DEGREE PROGRAM

AAS/RTechnical Core Courses   **(52 Credits)**

*HCA	101 Introduction to Long-Term Care	3
*HCA	102 Interdisciplinary Team Management	3
*HCA	201 Health and Aging	3
HCA	202 Long-Term Care Internship 1	5
HCA	203 Long-Term Care Internship 2	5
HCA	204 Long-Term Care Internship 3	5
HCA	205 Long-Term Care Internship 4	5
HCA	206 Long-Term Care Internship Seminar 1	1
HCA	207 Long-Term Care Internship Seminar 2	1
*HCA	208 Issues of Long-Term Care	3
HST	106 Physiology of Aging	3
HST	108 Psychology of Aging	3
BUS	101 Introduction to Business	3
*BUS	202 Human Resources Management	3
MKT	101 Principles of Marketing	3
MKT	202 Logistics/Purchasing Control	3

ENG	101 English Composition 1	3
ENG	102 English Composition 2	3
MAT	107 Math of Finance	3

*Indicates those courses required by the state for those persons who wish to pursue a preceptership on their own.

Total AAS Credits   **61**

HEALTH CARE ADMINISTRATION
TECHNOLOGY COURSE DESCRIPTIONS

HCA 101 - INTRODUCTION TO LONG-TERM CARE
3 Credits

Explores the history of health care provided outside the home, and offers an overview of long-term health care facilities. Includes rules and regulations of nursing homes, resident rights, legislation, and physical plant requirements.

HCA 102 - INTERDISCIPLINARY TEAM MANAGEMENT
3 Credits

Explores principles and relationships of the interdisciplinary team, the various departments which may compose the team, and the services which the department provides.

HCA 201 - HEALTH AND AGING
3 Credits

A holistic overview of the physical, psychological and social needs of individuals who live in extended care facilities.

HCA 202 - LONG-TERM CARE INTERNSHIP 1
5 Credits

Provides practical "hands-on" experience in a long-term care facility. The internship will serve as a basis for acquiring the knowledge, skills and attitudes one needs to function as an effective administrator.

HCA 203 - LONG-TERM CARE INTERNSHIP 2
5 Credits

Continuation of Long Term Care Internship 1.

HCA 204 - LONG-TERM CARE INTERNSHIP 3
5 Credits
Continuation of Long-Term Care Internships 1 and 2.
HCA 205 - LONG-TERM CARE INTERNSHIP 4
5 Credits
Continuation of Long-Term Care Internships 1, 2 and 3.
HCA 206 - LONG-TERM CARE SEMINAR 1
1 Credit
Taken concurrently with Long-Term Care Internships 1 and 2; allows students to explore nursing home issues.
HCA 207 - LONG-TERM CARE SEMINAR 2
1 Credit
Taken with Long-Term Care Internship 3 and 4, the seminar provides students the opportunities to discuss internship experiences and other relevant nursing home topics.
HCA 208 - ISSUES OF LONG-TERM CARE
3 Credits
An overview of various issues to familiarize students with responsibilities of nursing home administrators. Management styles, models, quality circles and personal improvement are covered.
HCA 281-293 - SPECIAL TOPICS IN HEALTH CARE AD-MINISTRATION TECHNOLOGY
1-5 Credits
A Special Topics Course provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area (Contact Chief Academic Officer for more information).

HUMAN SERVICES TECHNOLOGY

The Human Services program offers students the opportunity to become Human Services generalists and/or to concentrate in the areas of Substance Abuse or Gerontology.

As a Human Services professional, one reaches out to individuals, to families, and to communities. The Human Services program provides the broad understanding to help others meet their psychological, social, and environmental needs. The Human Services Generalist may find employment in a variety of settings such as community centers, group homes, substance abuse centers, and nursing homes. All enrolled in the program take a core of Human Services courses.

Those who study Human Services with a focus on Substance Abuse may find positions in substance abuse centers (residential, detox, and hospitals) as counselors or residents-in-training. (The program is certified by Indiana Counselors Association on Alcohol Abuse, ICAADA.) Those who focus on Gerontology may find jobs in adult day care centers, senior citizens centers and extended care facilities.

Program objectives include training the entry-level worker, providing education and training to upgrade the skills and knowledge of those currently employed, and providing development and enhancement. Throughout the program, students examine their values and attitudes which reflect upon their interactions with others.

The Associate of Applied Science degree requires 64 credits.

ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

AAS/Technical Core Courses   (34 Credits)

HST	101	Introduction to Human Services	3
HST	102	Helping Relationship Techniques	3
HST	103	Interviewing and Assessment	3
HST	201	Internship I	5
HST	202	Internship II	5
HST	203	Internship Seminar I	3
HST	204	Internship Seminar II	3
HST	205	Behavioral/Reality Techniques	3
HST	206	Group Process and Skills	3
HST	207	Program Planning/Policy	3

AAS/General Education Courses   (18 Credits)

ENG	101	English Composition	3
ENG	103	Speech	3
SOC	102	Introduction to Psychology	3
SOC	104	Introduction to Sociology	3
SOC	105	Introduction to Political Science	3
MAT	107	Math of Finance	3

AAS/Regional Courses
Generalist Track   (12 Credits)
See the advisor for all possible course choices.
Substance Abuse   (12 Credits)

HST	113	Problems of Substance Abuse	3
HST	208	Treatment Models	3
HST	209	Counseling Issues in Substance Abuse	3
HST	210	Codependency	3

Gerontology   (12 Credits)

HST	106	Physiology of Aging	3
HST	108	Psychology of Aging	3

Plus Credits from the Generalist Track

Total AAS Credits   64

HUMAN SERVICES COURSE DESCRIPTIONS

HST 101 Introduction to Human Services

3 Credits

Exploration of the history of human services, career opportunities and roles of the human service worker. Focuses on target populations and community agencies designed to meet the needs of various populations.

HST 102 - HELPING RELATIONSHIPS TECHNIQUES

3 Credits

Provides opportunities to increase effectiveness in helping people. Examines the helping process in terms of skills, helping stages, and issues involved in a helping relationship and introduces major theories of helping.

HST 103 - INTERVIEWING AND ASSESSMENT

3 Credits

Develops skills in interviewing and provides a base for students to build personal styles. Introduces a variety of treatment planning methods. Case studies and recording exercises are utilized.

HST 104 - CRISIS INTERVENTION

3 Credits

This course is designed as a beginning training unit for people who anticipate or are presently working in crisis situations.

HST 105 - CRIMINAL JUSTICE SYSTEMS

3 Credits

This course introduces the study of crime and criminals and how society is affected.

HST 106 - PHYSIOLOGY OF AGING

3 Credits

This course will focus on the physical and common pathologies associated with the aging process. It also will focus on the psychological and social implication of such changes for human behavior. Throughout the course, there will be a focus on health promotion and disease prevention during the later years.

HST 107 - HUMAN SERVICES TOPICAL SEMINAR
3 Credits

Discusses topics of current interest in human services. Attention is given to special interest projects for students in Human Services. Field trips, guest speakers, audio-visual activities, and seminars may be utilized.

HST 108 - PSYCHOLOGY OF AGING
3 Credits

Covers the major behavioral changes in adulthood and aging. Students explore their own feelings about failing, as well as societal attitudes.

HST 109 - FAMILIES IN AMERICAN CULTURE
3 Credits

The impact of change on the role and function of the modern family, the nature of the socialization process, and socioeconomic, cultural and ethnic factors that nurture or inhibit the family's capacity to function are areas of study included in this course.

HST 111 - L.T.C. ACTIVITY DIRECTOR
3 Credits

Explores the philosophy and investigates the development of therapeutic activity programs for residents living in nursing homes. It focuses on offering activities which will meet an individual's physical, social, emotional needs.

HST 112 - RECREATION FOR SPECIAL POPULATIONS
3 Credits

Studies the nature and etiology of impairments including developmental disabilities, mental illness, physical disabilities and geriatrics, and their potential impact upon an individual's ability to participate in recreational activities. Techniques needed to conduct recreation which allows successful articulation by an individual with a disability will be explored.

HST 113 - PROBLEMS OF SUBSTANCE ABUSE IN SOCI-ETY

3 Credits

Provides basic information about alcohol and drugs, as well as the various laws which pertain to them. It also explores current attitudes and practices which pertain to alcohol and drug use, misuses, and dependence.

HST 114 - SOCIAL SERVICES IN LONG-TERM CARE

3 Credits

A specialized course which gives practical and useful information about aging and institutionalization. It focuses on the role of Social Services with the long-term care facility.

HST 115 - APPLIED BEHAVIORAL PSYCHOLOGY

3 Credits

A study of unique capacities and personal strengths of self and others. Emphasis is on discovering, clarifying, and affirming individual potential for living more fully. Students discuss the complex nature of human development, human behavior and related social problems.

HST 116 - INTRODUCTION TO MENTAL
RETARDATION/DEVELOPMENT DISABILITIES

3 Credits

This course provides the participant with background knowledge of the field of mental retardation/developmental disabilities and issues pertinent to the field.

HST 117 - INTRODUCTION TO RESIDENTIAL TREAT-MENT

3 Credits

Introduces information, skills, and attitudes necessary to become an effective worker in residential treatment. Explores the therapeutic "milieu," basic developmental needs, planning and use of activities, and issues related to the team approach. Discusses and demonstrates observation and recording of behavior.

HST 201 - INTERNSHIP I
5 Credits

A field work experience in social, educational, law enforcement (corrections) or other community service organizations. The student will be supervised by an internship site professional and a college faculty member. Fourteen-sixteen hours of work experience each week.

HST 202 - INTERNSHIP II
5 Credits

Continuation of Internship I. Location of this internship experience will be determined cooperatively by the student and the Human Services Department. Fourteen-sixteen hours of work experience each week.

HST 203 - INTERNSHIP SEMINAR I
3 Credits

Discussion and analysis in small groups of the human services practicum experience. There will be special learning objectives set up which relate to the kind of work the student will do in an organization.

HST 204 - INTERNSHIP SEMINAR II
3 Credits

Continuation of Internship Seminar I with different learning objectives. These objectives will be related to the work the student will do at the internship site.

HST 205 - BEHAVIORAL/REALITY TECHNIQUES
3 Credits

Focuses on theories of behavioral and reality approaches. Develops understanding of terms and practical applications of the behavioral and reality approaches used in working with people.

HST 206 - GROUP PROCESS AND SKILLS
3 Credits

A study of group dynamics, issues, and behavior. Includes group functioning and leadership, guidelines on working effectively with a co-leader, and practical ways of evaluating the group process.

HST 207 - PROGRAM PLANNING/SOCIAL POLICY ISSUES
3 Credits

Deals with the components of administration of human service agencies. Addresses practitioner skills needed to be an administrator or supervisor. Discusses social policy issues and impact on human services.

HST 208 - TREATMENT MODELS OF SUBSTANCE ABUSE
3 Credits

Describes the various treatment models used with chemically dependent clients.

HST 209 - COUNSELING ISSUES
3 Credits

Explores practice strategies for the worker who counsels chemically dependent clients.

HST 210 - CODEPENDENCY
3 Credits

This course presents the definition of codependency and the issues related to it. Students learn skills and techniques to confront codependent behavior.

HST 288 - SPECIAL TOPICS IN HUMAN SERVICES TECHNOLOGY
1-5 Credits
A Special Topics Course.

MEDICAL ASSISTANT

The graduate of the Medical Assistant Program is a professional multi-skilled person dedicated to assisting in patient care management primarily in a physician's office. The practitioner performs administrative and clinical duties and may manage emergency situations, facilities, and/or personnel. Competence in the field also requires that a Medical Assistant display professionalism, communicate effectively, and provide instruction to patients. A required externship provides valuable on-the-job experience.

The program is accredited by the Curriculum Review Board of the American Association of Medical Assistants and the Committee on Allied Health of the American Medical Association.

Graduates of the Medical Assistant Program will be prepared to take the Certification Examination of the American Association of Medical Assistants (AAMA) and the American Medical Association (AMA).

The two-year Associate of Applied Science program requires 65 credits for completion. The Technical Certificate requires 45 credits and can be completed in one year.

Salary range for Medical Assistants is from $6.00 to $13.00 per hour depending upon education, experience, and specialty area.

The Medical Assistant Program works in cooperation with private physicians' offices, health maintenance organizations, and Immediate Care Centers to provide practicum experiences for students.

Note: An evening degree program is available. This is a four evening a week program taking four consecutive academic periods.

ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

AAS/Technical Core Courses			(37 Credits)
*Technical Certificate			(26 Credits)
*MEA	102	First Aid and CPR	2
*MEA	104	Medical Assisting - Administrative	3
*MEA	111	Medical Typing and Transcription	3
*MEA	112	Medical Assisting - Clinical	4
*MEA	113	Pharmacology	3
*MEA	114	Medical Assisting Laboratory Techniques	3
*MEA	115	Medical Insurance	2
*MEA	120	Medical Assisting - Clinical Externship	3
*MEA	121	Medical Assisting - Administrative Externship	3
MEA	201	Medical Word Processing - Transcription	2
MEA	202	Medical Assisting - Advanced Clinical	4
MEA	203	Disease Conditions	3
MEA	204	Medical Office Management	2

AAS/General Education Requirements			(18 Credits)
*Technical Certificate			(12 Credits)
*ENG	101	English Composition	3
ENG	103	Speech	3
MAT	107	Math of Finance	3
*SOC	102	Introduction to Psychology	3
*SCI	113	Anatomy and Physiology I	3
*SCI	115	Anatomy and Physiology II	3

AAS/Regional Courses			(7 Credits)
*Technical Certificate			(7 Credits)
*INF	101	Introduction to Microcomputers	3
*MEA	101	Medical Terminology	3
*MEA	103	Medical Law and Ethics	1

AAS/Regional Electives (3 Credits)

Select one of the following: MEA 213, MEA 212, MEA 211, MEA288(s) or approved courses in the Health or Business Division.

Total AAS Credits	**65**
*Total Technical Certificate Credits	**45**

MEDICAL ASSISTANT COURSE DESCRIPTIONS

MEA 101 - MEDICAL TERMINOLOGY
3 Credits

Addresses basic terminology required of the allied health professional. Greek and Latin prefixes are presented, as well as suffixes, word roots, and combining forms. Emphasis is on forming a solid foundation for a medical vocabulary including meaning, spelling, and pronunciation. Medical abbreviations, signs, and symbols are included.

MEA 102 - FIRST AID AND CPR
2 Credits

Provides students with information necessary to recognize emergency situations, know the proper course of action with different types of emergencies, and apply appropriate first aid, including CPR.

MEA 103 - MEDICAL LAW AND ETHICS
1 Credit

Presents ethics of medicine and medical practice, as well as legal requirements and implications for allied health professions.

MEA 104 - MEDICAL ASSISTING - ADMINISTRATIVE
3 Credits

This course provides a basic understanding of the administrative duties and responsibilities pertinent to medical offices. It also develops communication skills specifically directed toward a medical office and the role of the professional Medical Assistant as a member of the health care team. It includes instruction in medical correspondence and records, case histories of patients, filing, financial administration, telephone procedures, appointment scheduling, receptionist duties, processing mail, pegboard accounting, and care of facilities and equipment. It also includes development of desirable personality traits, interpersonal relationships and attitudes within the medical office.

MEA 111 - MEDICAL TYPING AND TRANSCRIPTION
3 Credits

Focuses on improving typewriting ability in the medical field, including transcription with emphasis on production, speed and accuracy. Course includes formatting, typing, and transcription of articles, medical reports, case histories, and correspondence using medical terminology.

MEA 112 - MEDICAL ASSISTING - CLINICAL
4 Credits

Provides students the opportunity to become familiar with clinical duties and to gain the skills needed to perform them. Includes: vital signs, asepsis, sterilization, medications, EKGs, X-ray, nutrition, physical therapy and other technical skills needed to assist the physician.

MEA 113 - PHARMACOLOGY
3 Credits

The most common medications in current use are discussed according to body systems with emphasis on classifications, uses, routes of administration, dosages, interactions, incompatibilities, and side effects. Also addressed are special precautions, legal aspects, and patient education.

MEA 114 - MEDICAL ASSISTING LABORATORY TECHNIQUES
3 Credits

Prepares students to perform various basic laboratory procedures to include preparation of patients, collecting and preparing specimens, familiarization with purposes and expected norms of laboratory test results. Course also includes current safety and quality control standards.

MEA 115 - MEDICAL INSURANCE
2 Credits

An overview of medical insurance problems with skills developed in handling insurance forms, CPT and ICD-9-CM Coding, and reports as applied to the medical office.

MEA 120 - MEDICAL ASSISTING - CLINICAL EXTERNSHIP
3 Credits
Provides the opportunity to discuss and perform clinical procedures under supervision, with learning experiences obtained in selected physicians' offices, clinics, or hospitals.

MEA 121 - MEDICAL ASSISTING - ADMINISTRATIVE EXTERNSHIP
3 Credits
Course provides opportunities to observe, perform, and discuss various administrative competencies under supervision, with learning experiences obtained in selected physicians' offices, clinics, or hospitals.

MEA 201 - MEDICAL WORD PROCESSING/TRANSCRIPTION
2 Credits
Advances skills and knowledge of medical dictation, machine transcription, and use of word processing. Includes typing medical reports, terminology, and correspondence.

MEA 202 - MEDICAL ASSISTING - ADVANCED CLINICAL
4 Credits
Advances the knowledge and skills enabling the student to assist in clinical management in the medical and surgical specialities. Addresses health services in the community which are directed toward prevention of disease and maintenance and restoration of health.

MEA 203 - DISEASE CONDITIONS
3 Credits
Presents the basic concepts of diseases, their courses and functional disturbances as they relate to body systems. Includes the precipitating risk factors and appropriate methods of patient education regarding various disease processes.

MEA 204 - MEDICAL OFFICE MANAGEMENT
2 Credits
An in-depth study of various influences on office functions providing a background for organization and management of a physician's office. Includes government and professional sources for consultation.

MEA 211 - ECG INTERPRETATION

3 Credits

Covers basic cardiovascular anatomy and physiology; basic electrophysiology; ECG techniques to define, identify and analyze ECG measurements; ECG holter and stress testing instrumentation; nomenclature and derivations of ECG leads.

MEA 212 - PHLEBOTOMY

3 Credits

Presents the principles and practices of laboratory specimen collection and processing. Also covers medical terminology, infection control, patient identification, anatomy and physiology, anticoagulants, blood collection, specimen processing, and interpersonal skills.

MEA 213 - ADVANCED INSURANCE CODING

3 Credits

Introduces the medical office administrator to codes necessary to bill insurance claims and provides experience in coding claim forms using the correct combination of codes to maximize reimbursement.

MEA 221 - SEMINAR I

1 Credit

Discusses topics of current interest in the medical assisting profession. Attention is given to special interest projects for students in the Medical Assistant program. Field trips, guest speakers, audiovisual activities, and seminars may be utilized.

MEA 222 - SEMINAR II

2 Credits

Discusses topics of current interest in the medical assisting profession. Attention is given to special interest projects for students in the Medical Assistant program. Field trips, guest speakers, audiovisual activities, and seminars may be utilized.

MEA 223 - SEMINAR III

3 Credits

Discusses topics of current interest in the medical assisting profession. Attention is given to special interest projects for students in the Medical Assistant program. Field trips, guest speakers, audiovisual activities, and seminars may be utilized.

MEA 288 - SPECIAL TOPICS IN MEDICAL ASSISTANT TECHNOLOGY

1-5 Credits

A Special Topics Course provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area (Contact Chief Academic Officer for more information).

MEA 299 - COMPREHENSIVE CERTIFICATION REVIEW

3 Credits

This course is designed to review fundamentals and principles of medical assisting, thereby preparing the student to sit for the certification examination upon graduation from the program. Administrative, clinical, and general information is covered. Testing procedures are addressed.

PRACTICAL NURSING

The Licensed Practical Nurse is an integral part of the health care team. The Practical Nursing program is a one-year course of study leading to a Technical Certificate. This accredited program prepares the individual to take the state licensure exam to become a Licensed

Practical Nurse (LPN). The program is designed for students to gain knowledge and technical skills necessary to appropriately care for patients in a variety of health care settings, such as hospitals, convalescent centers, and physician's offices. Students learn to administer medications and treatments commonly performed by Licensed Practical Nurses.

The Indianapolis program is accredited by the National League of Nursing (NLN) and approved by the Indiana State Board of Nursing. Clinical courses begin in the fall and spring semester of this twelve-month program that requires two semesters and a twelve-week summer session. The PSB Aptitude Test Practical Nursing is required after Skills Advancement courses (reading, writing, and math) are completed or almost completed. The fee for this test will be $15.00 after January 1, 1991. Applicants are advised to apply six to nine months in advance.

The following facilities have collaborated with the College as clinical sites for practical work experiences required in the program:
Community North, South and East in Indianapolis
Hancock Memorial Hospital, Greenfield
Johnson Memorial Hospital, Franklin
Lifelines of Indianapolis
Major Hospital, Shelbyville
Methodist Hospital of Indiana
Winona Memorial Ltd.
Wishard Memorial Hospital
St. Francis Hospital Center
St. Vincent's Hospital and Health Care Center

The starting salary is $10.00 to $13.00 per hour, which can increase up to 25% because of shift differentials and fringe benefits. Applicants should check with local medical facilities to get current salary information.

Technical Core Courses   (50 Credits)

PNU	101	Foundations of Nursing	4
PNU	102	Therapeutic Measures	3
PNU	103	Holistic Approach to Health	2
PNU	104	Nutrition	2
PNU	105	Introduction to Clinical Nursing	3
*PNU	106	Anatomy and Physiology for PN	5
PNU	107	Cardiopulmonary Nursing	3
PNU	108	Endocrine/Genitourinary Nursing	3
PNU	109	Gastrointestinal/Sensorimotor Nursing	3
PNU	110	Introduction to Pharmacology for PN	2
PNU	111	Pharmacology for Practical Nurses	2
PNU	112	Medical/Surgical Clinical Nursing I	3
PNU	113	Medical/Surgical Clinical Nursing II	2
PNU	114	Nursing Issues and Trends	1
PNU	115	Gerontology	3
PNU	116	Geriatric Clinical Nursing	3
PNU	117	Maternal/Child Nursing	3
PNU	118	Maternal/Child Clinical Nursing	3

Total Technical Certificate Credits   50

Suggested courses that help develop students for Program Required Courses:

BSA	007	Spelling	1
BSA	063	Introduction to Anatomy and Physiology	3
BSA	071	Critical Thinking	3
BSA	074	Introduction to Computer Literacy	1
MEA	101	Medical Terminology	3
MEA	212	Phlebotomy	3
MEA	288	Success Skills for Human Services and Health Technologies	3

* SCI 113 and 115 Anatomy and Physiology I and II can also be used and is encouraged.

PRACTICAL NURSING COURSE DESCRIPTIONS

PNU 101 - FOUNDATIONS OF NURSING
4 Credits

The art and science of practical nursing: the goals and the role of the licensed practical nurse on the health care team. Concept of the nursing process as practiced within the wellness/illness continuum. Includes basic nursing care, collection and recording of data.

PNU 102 - THERAPEUTIC MEASURES
3 Credits

Focuses on the art and science required for the practical nurse to carry out preventative, therapeutic, and rehabilitative nursing interventions requiring advanced skills and knowledge. Integrates the nursing process and the role of the practical nurse.

PNU 103 - HOLISTIC APPROACH TO HEALTH
2 Credits

Orientation to the holistic approach to the art and science of practical nursing. Includes holistic aspects of care, the wellness/illness continuum, and therapeutic relationships.

PNU 104 - NUTRITION
2 Credits

Basic principles of nutrition and diet therapy in wellness and illness for various age groups. Considers socioeconomic, ethnic and religious factors related to diet. Emphasis on the role of the practical nurse in assisting patients in meeting nutrition needs.

PNU 105 - INTRODUCTION TO CLINICAL NURSING
3 Credits

Provides students with opportunities to implement basic nursing skills in the clinical setting . Emphasizes the hygienic and comfort needs of the adult patient and developing basic assessment skills utilizing the nursing process. Concise, accurate documentation of assessments and care delivery is stressed.

PNU 106 - ANATOMY AND PHYSIOLOGY FOR PN
5 Credits

Presents structure and function of the human body. Examines the physical and chemical factors enabling human beings to interact with and to maintain homeostasis of the internal environment. Fundamental wellness/illness relationships are integrated.

PNU 107 - CARDIOPULMONARY NURSING

3 Creditss

Utilizes the nursing process in understanding the pathophysiology and nursing care of patients with cardiovascular/ventilation needs. Emphasizes developing nurse as a communicator and care giver with a holistic approach.

PNU 108 - ENDOCRINE/GENITOURINARY NURSING

3 Credits

Utilizes the nursing process in understanding the pathophysiology of hormonal imbalances and urinary elimination needs. Emphasis is on the nurse as a communicator and caregiver with a holistic approach; identifying community supports for patients; and developing patient awareness of healthful lifestyle.

PNU 109 - GASTROINTESTINAL/SENSORIMOTOR NURSING

3 Credits

Utilizes the nursing process in understanding the pathophysiology of digestion, elimination, mobility, and sensorimotor needs. Develops the nurse as a communicator and caregiver with a holistic approach. Relates patients' psychosocial needs and opportunities for support through community agencies.

PNU 110 - INTRODUCTION TO PHARMACOLOGY-PN

2 Credits

The art and science of meeting biopsychosocial needs through administration of pharmacologic agents within the preventative, therapeutic and rehabilitative environment. Defines LPN responsibilities in medication administration. Nursing process is used to assess patient wellness/illness status.

PNU 111 - PHARMACOLOGY FOR PRACTICAL NURSES

2 Credits

A survey of common pharmacologically agents. Nursing process is the framework used to meet biopsychosocial needs of individuals along the wellness/illness continuum through the administration of pharmacologic agents. Drug therapy is developed as one aspect of preventative, therapeutic and rehabilitative care of patients in their environment.

PNU 112 - MEDICAL SURGICAL CLINICAL NURSING I
3 Credits

Correlates medical surgical content and nursing practice. Nursing process is used as the basis of decision making within the practical nurse role. Emphasis is on the holistic aspects of individuals along the wellness/illness continuum.

PNU 113 - MEDICAL SURGICAL CLINICAL NURSING II
2 Credits

Correlates medical surgical content with advanced nursing practice. Nursing process is implemented within the role of the practical nurse.

PNU 114 - NURSING ISSUES AND TRENDS
I Credit

Introduces organizational patterns and the role of Licensed Practical Nurses in the health care delivery systems. Emphasizes continuing education as a means to maintain competencies. Ethical, legal, and historical aspects included to develop awareness of privileges, obligations and responsibilities of the practical nurse.

PNU 115 - GERONTOLOGY
3 Credits

Focuses on the normal aging process along the wellness/illness continuum in later life. Trends in preventative, rehabilitative, and therapeutic care are surveyed.

PNU 116 - GERIATRIC CLINICAL NURSING
3 Credits

Correlates gerontologic content with holistic care of the older adult. Implements nursing process within the role of the practical nurse to prevent illness or to maintain, promote, and restore health.

PNU 117 - MATERNAL CHILD NURSING
3 Credits

Examines conditions and selected interventions based on the nursing process, in providing preventative, rehabilitative and therapeutic care for the mother and child. The role of the Licensed Practical Nurse is identified in providing holistic care within a dynamic environment.

PNU 118 - MATERNAL CHILD CLINICAL NURSING
3 Credits

Correlates maternal child content with holistic care of the mother and child. Emphasis is on the normal maternity cycle and normal growth and development of the child within the wellness/illness continuum.

PNU 288 - SPECIAL TOPICS IN PRACTICAL NURSING TECHNOLOGY
1-5 Credits

A Special Topics Course provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area.

RADIOLOGIC TECHNOLOGY

The radiologic technologist prepares patients for X-rays; positions them; determines the proper voltage, current and exposure time; and operates the equipment. Trained radiologic technologists are in demand in hospitals, medical laboratories, physicians' and dentists' offices and clinics, federal and state health agencies and certain educational institutions.

The program includes courses in the following areas radiologic technique, exposure, positioning, protection, radiation physics and ethics. Clinical practice and supplemental instruction are provided in accredited hospitals. Upon completion of program requirements, graduates are eligible to take the American Registry Examination given by the American Registry of Radiologic Technologists.

During the last three academic periods, 93.5% of the program graduates passed the American Registry of Radiologic Technologist Examination on their first attempt.

Radiologic Technology is a full-time year round, two-year program. Students, once accepted, will be at their clinical site three days each week and in the classroom two days each week.

The clinical sites are Winona Memorial Hospital Ltd. in Indianapolis, Johnson Memorial in Franklin, and Bartholomew County Hospital in Columbus.

The starting salary for a Radiologic Technologist is $9.75 to $10.75 per hour. This rates does not include the fringe benefits that could increase the base pay as much as 25%.

The program is accredited by the Joint Review Committee on Education in Radiologic Technology.

Please call 921-4800, 921-4450, or 921-4414 for more information.

AAS/Technical Core Courses   (55 Credits)

RAD	101	Orientation & Nursing in Radiologic Technology	3
RAD	102	Principles of Radiographic Exposure	4
RAD	103	Radiographic Positioning I	3
RAD	104	X-Ray Clinical Education I	4
RAD	105	Radiographic Positioning II	3
RAD	106	X-Ray Clinical Education II	3
RAD	107	Radiation Physics	3
RAD	108	Radiographic Quality Assurance	2
RAD	109	Imaging Techniques	2
RAD	201	Radiographic Positioning III	3
RAD	202	X-Ray Clinical Education III	6
RAD	203	X-Ray Clinical Education IV	6
RAD	204	X-Ray Clinical Education V	5
RAD	205	Pathology for Radiologic Technology	2
RAD	206	Radiobiology	3
RAD	299	General Exam Review	3

AAS/General Education Requirements   (22 Credits)

ENG	101	English Composition I	3
SOC	101	Human Relations	3
SCI	113	Anatomy and Physiology I	3
SCI	115	Anatomy and Physiology II	3
MEA	101	Medical Terminology	3
MEA	103	Medical Law and Ethics	1
RAD	110	Technical Math for Health Occupations	3
INF	101	Introduction to Microcomputers	3
Total AAS Credits			**77**

Courses strongly recommended:

SCI	107	Chemistry	3
MEA	113	Pharmacology	3

RADIOLOGIC TECHNOLOGY COURSE DESCRIPTIONS

RAD 101 - ORIENTATION AND NURSING PROCEDURES FOR

X-RAY TECHNOLOGY

3 Credits

History and application of diagnostic X-ray from its discovery to modem procedures . Introduces principles, properties, and safe usages. Emphasizes patient, technologist, and physician safety, along with patient-technologist relationships, asepsis, isolation, and first aid. Introduction to abdomen and chest positioning.

RAD 102 - PRINCIPLES OF RADIOGRAPHIC EXPOSURES

4 Credits

Presents individual and group characteristics needed to produce the ideal radiograph. Knowledge of interchangeability of mAs, kVp, film/screen combinations, distance, and grids . Also factors and considerations needed for pediatric techniques, calibration, heat unit calculation and technique chart construction.

RAD 103 - RADIOGRAPHIC POSITIONING I

3 Credits

Correlates positioning, terminology, techniques and film evaluation with exams of the upper extremity, upper or lower gastrointestinal tract, and intravenous pyelogram examinations.

RAD 104 - X-RAY CLINICAL EDUCATION I

4 Credits

Implements Clinical Category 1 of the Competency Model. Includes laboratory demonstration, clinical practice and supervised clinical experience.

RAD 105 - RADIOGRAPHIC POSITIONING II

3 Credits

Correlates positioning terminology and techniques and film evaluation with exams of the lower extremity, additional contrast studies.

RAD 106 - X-RAY CLINICAL EDUCATION II

3 Credits

Category 2 of the Competency Laboratory Model, testing competency and proficiency of skills from Category 1 and 2. Includes supervised clinical experience.

RAD 107 - RADIATION PHYSICS
3 Credits

Introduces physics as utilized in the production of X-rays. Includes laws of physics pertaining to atomic structure, chemical properties and reactions, and electrical circuitry. Also covers equipment and methods of generation and measurement of electricity.

RAD 108 - RADIOGRAPHIC QUALITY ASSURANCE
2 Credits

Presents theories and practices pertaining to the establishment of department exposure standards. Includes equipment tests for reliability, problem solving, reject analysis, and cost containment. Hands-on experience in processor monitoring, record keeping and radiographic quality control tests.

RAD 109 - IMAGING TECHNIQUES
2 Credits

Theories, principles, and demonstrations of current imaging modalties, including the image intensifier, tomography, video and cine camera, serial changers, subtraction technique, polaroid, thermography, ultrasound, and xeroradiography.

RAD 110 - TECHNICAL MATH FOR HEALTH OCCUPATIONS
3 Credits

Basic instruction in technical mathematics for students in health occupations. Includes review of arithmetic, basic concepts of algebra, graphing, geometry, and logarithms.

RAD 201 - RADIOGRAPHIC POSITIONING III
3 Credits

Covers positioning terminology, techniques, and film evaluations of the cranium, vertebral column, mammography, and routine special radiographic procedures.

RAD 202 - X-RAY CLINICAL EDUCATION III
6 Credits

Introduces Category 3 of the Competency Model, proficiency testing over Category 1 and 2, skills and competency testing over Category 3 . Includes supervised clinical experience and Skin maintenance.

RAD 203 - X-RAY CLINICAL EDUCATION IV
6 Credits
Introduces Category 4 of the Competency Model in laboratory proficiency testing of skills learned in Category 1, 2, and 3, and competency in Category 4. Includes supervised clinical experience.

RAD 204 - X-RAY CLINICAL EDUCATION V
5 Credits
Includes final competency testing for students who have not completed
X-ray Clinical Education 4. Continues maintenance over all categories. Includes supervised clinical experience.

RAD 205 - PATHOLOGY FOR RADIOLOGIC TECHNOLOGY
2 Credits
Examines basic concepts concerning disease, its causes, and the resulting changes as viewed radiographically. Emphasis is placed on needed technical changes to produce optimal radiographs from correlations to patient symptoms.

RAD 106 - RADIOBIOLOGY
3 Credits
Theory and principles of the effects of ionizing radiation upon living tissues. Includes a review of dosages, measurements, DNA structure and function, and cellular radiosensitivity.

RAD 288 - SPECIAL TOPICS IN RADIOLOGIC TECHNOLOGY
1-5 Credits
A Special Topics Course provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area (Contact Chief Academic Officer for more information).

RAD 299 - GENERAL EXAMINATION REVIEW
3 Credits
Reviews content of program, emphasizing anatomy, physics, exposure principles, and positioning . Simulated Registry exams prepare the student for American Registry of Radiologic Technologist Examination.
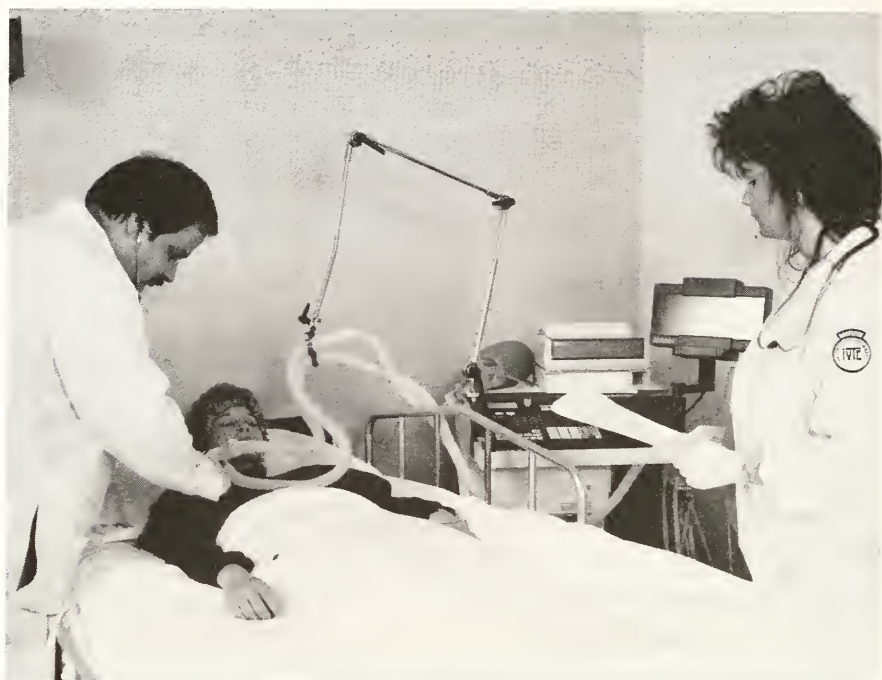
RESPIRATORY CARE

A respiratory care practitioner is an allied health professional who works under the direction of physicians in the diagnosis, evaluation, treatment, education and care of patients with cardiopulmonary diseases or abnormalities.

A graduate of the Associate of Applied Science program will be eligible to sit for the Entry Level and Advanced Practitioner exams given by the National Board for Respiratory Care (NBRC). Successful exam candidates will be awarded the Registered Respiratory Therapist credential. A graduate of the entry level program will be eligible to sit for the entry-level practitioner exam given by the NBRC. Successful exam candidates will be awarded the Certified Respiratory Therapy Technician credential. The program's pass rates for the national exam are far above the national averages.

The two-year Associate of Applied Science degree requires 81 credits for completion.

The Associate Degree program is offered on both a full and part-time track. Both tracks require set courses each semester for the duration of the program. Students are accepted into either the full-time program or the part-time program. The full-time program is five semesters in length (18 credits each semester) and starts in the fall semester of each year. The part-time program is nine semesters in length (9 credit hours per semester) and starts in the spring semester each year. Students should contact program personnel for specific curriculum information. An interview is required for assignment to a clinical spot.

Facilities that have collaborated with the college in this program include: Bloomington Hospital, Community Hospital-East, I.U. Medical Center Hospital, Methodist Hospital, Riley Children's Hospital, St. Francis Hospital, St. Vincent Hospital, Veteran's Administration Hospital, Winona Hospital and Wishard Hospital.

The 1990 hourly salary range for graduates of this program is from $9.50 to $11.50 at the Associate Degree level.

ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAM

AAS/Technical Core Courses   (57 Credits)

*RES	101	Respiratory Care Science I	3
*RES	102	Respiratory Care Science II	3
*RES	103	Respiratory Care Science III	3
*RES	104	Respiratory Care Science IV	3
RES	105	Biophysics for Respiratory Care	3
*RES	106	Clinical Medicine	3
*RES	107	Cardiopulmonary Physiology	3
*RES	108	Clinical Practicum I	3
*RES	109	Clinical Practicum II	3
*RES	110	Clinical Practicum III	3
*RES	111	Clinical Practicum IV	3
RES	201	Respiratory Care Science V	3
RES	202	Respiratory Care Science VI	3
RES	203	Pathophysiology and Monitoring	3
*RES	204	Clinical Practicum V	3
RES	205	Clinical Practicum VI	3
RES	206	Clinical Practicum VII	3
INF	101	Introduction to Microcomputers	3
IST	102	Techniques of Supervision	3

AAS/General Education Requirements   (24 Credits)

ENG	101	English Composition I	3
SOC	101	Human Relations	3
*RAD	110	Technical Math for Health Occupations	3
*SCI	107	Chemistry	3
*SCI	111	Microbiology	3
*SCI	113	Anatomy & Physiology I	3
*SCI	115	Anatomy & Physiology II	3
MEA	113	Pharmacology	3
Total AAS Credits			**81**

*Required for entry level.

RESPIRATORY CARE COURSE DESCRIPTIONS

RES 101 - RESPIRATORY CARE SCIENCE I
3 Credits

Includes condensed history of respiratory care: principles/practices of oxygen administration; equipment cleaning and sterilization techniques, and gas analyzers. Includes patient care needs, asepsis, body mechanics, physical assessment, isolation techniques, medical terminology and medical records.

RES 102 - RESPIRATORY CARE SCIENCE II
3 Credits

Includes principles and practices of oxygen administration: gas blenders; humidity and aerosol therapies; environmental therapy; introduction to manual resuscitators; and therapeutics of uncentive spurometry. Includes selected aspects of ethical practice.

RES 103 - RESPIRATORY CARE SCIENCE III
3 Credits

Covers medicinal aerosol therapy and respiratory pharmacology, ultrasonic therapy, positive pressure breathing modalities, chest physiotherapy and pulmonary rehabilitation. Introduces basic pulmonary function-testing. Selected aspects of ethical and legal respiratory practice are presented.

RES 104 - RESPIRATORY CARE SCIENCE IV
3 Credits

Covers basic airway care, basic arterial blood gas analysis and interpretation and basic medical laboratory data. Concepts and techniques of critical respiratory care of adults and infants. Includes adult, pediatric, and neonatal mechanical ventilators and related monitoring equipment.

RES 105 - BIOPHYSICS FOR RESPIRATORY CARE
3 Credits

Basic principles of physics related to respiratory care. Emphasis is placed on principles of motion, work, energy, electricity and bioelectricity and properties of liquids and gases.

RES 106 - CLINICAL MEDICINE
3 Credits

Introduces etiology, symptomatology, diagnosis, therapeutics and prognosis of selected pulmonary diseases.

RES 107 - CARMOPULMONARY PHYSIOLOGY
3 Credits
Covers the cardiopulmonary system including ventilation, perfusion, and gas exchange. Introduces arterial blood gases, acid-base regulation and physiologic monitoring.

RES 108 - CLINICAL PRACTICUM I
3 Credits
Introduction to the hospital environment. Experiences in various hospitals with respiratory care departments, patient charts, patient identification and communication.

RES 109 - CLINICAL PRACTICUM II
3 Credits
Provides supervised experience in oxygen therapy, incentive spirometry, humidity/aerosol therapy and charting. Continuing certification in CPR is required.

RES 110 - CLINICAL PRACTICUM III
3 Credits
Supervised experience in selected therapeutic modalities. Introduction to chest physiotherapy, medicinal aerosol therapy, intermittent positive pressure breathing and ultrasonic therapy. Continuing certification in CPR is required.

RES 111 - CLINICAL PRACTICUM IV
3 Credits
Additional supervised experience in selected therapeutic modalities. Introduction to basic cardiopulmonary testing and mechanical ventilation is included. Continuing certification in CPR is required.

RES 201 - RESPIRATORY CARE SCIENCE V
3 Credits
Includes in-depth approaches to the respiratory care management of critically ill neonatal, pediatric and adult patients. Special emphasis on techniques of patient evaluation, monitoring, transportation and management.

RES 202 - RESPIRATORY CARE SCIENCE VI
3 Credits
Covers advanced techniques of mechanical ventilation of neonatal, pediatric and adult patients. Includes advanced techniques of patient assessment.

RES 203 - PATHOPHYSIOLOGY AND MONITORING
3 Credits

Includes etiology, symptomatology, diagnosis, therapeutics and prognosis of disease conditions related to respiratory care including relationships of body systems. Covers various equipment, techniques of data collection, interpretation and evaluation of data used in monitoring the cardiopulmonary system.

RES 204 - CLINICAL PRACTICUM V
3 Credits

Provides additional supervised experience in selected therapeutic modalities. Includes advanced patient assessment, clinical experience in adult critical care, arterial blood gas analysis and airway care. Continuing certification in CPR is required.

RES 205 - CLINICAL PRACTICUM VI
3 Credits

Additional supervised experience in selected therapeutic modalities. Includes advanced clinical experience in adult, pediatric and neonatal critical care and experience in adult education. Continuing certification in CPR is required.

RES 206 - CLINICAL PRACTICUM VII
3 Credits

Includes additional supervised experience in selected therapeutic modalities. Includes advanced cardiopulmonary diagnostic techniques, application of invasive and non-invasive monitoring of the cardiopulmonary system, experience m respiratory care departmental management and quality assurance roles. Continuing certification in CPR is required.

RES 288 - SPECIAL TOPICS IN RESPIRATORY THERAPY TECHNOLOGY
1-5 Credits

Course content is based on the current matrix for the examinations.

SURGICAL TECHNOLOGY

The surgical technologist is a highly skilled member of the surgical team, qualified by didactic and clinical education to provide safe and efficient care to the patient in the operating room. The didactic education consists of courses in Anatomy and Physiology, Microbiology, Pharmacology, Medical Law and Ethics, Surgical Techniques and Surgical Procedures. Closely supervised clinical education is provided in local area hospitals.

The surgical technologist actively participates in surgery by performing scrub and/or circulating duties which include: passing instruments and supplies to the surgical team members, preparing and positioning the patient, operating equipment, assisting the anesthesiologist, and keeping accurate records. Obstetrical and Emergency Room clinical experiences may be provided by specific hospitals. The program is one calendar year in length requiring 55 credits leading to a Technical Certificate.

The program is accredited by the Committee on Allied Health Education and Accreditation with the Accreditation Review Committee on Education for Surgical Technologists. The full-time program begins in the fall semester each year and includes the spring semester and a twelve-week summer session.

The following facilities have collaborated with the College as clinical sites for practical work experiences required in the program.

Bloomington Memorial Hospital, Bloomington
Indiana University Hospital
Riley Hospital for Children
Wishard Memorial Hospital
Methodist Hospital of Indiana
St. Vincent's's Hospital and Health Care Center

The starting salary is $9.00 to $10.00 per hour, which can increase up to 25% because of shift differentials. Applicants should check with local medical facilities to get current salary information.

TECHNICAL CERTIFICATE PROGRAM

Technical Core Courses   (39 Credits)

SUR	101	Surgical Techniques	3
SUR	102	Surgical Procedures I	3
SUR	103	Fundamentals of Surgical Technology	6
SUR	104	Surgical Procedures II	6
SUR	105	Clinical Applications I	9
SUR	106	Surgical Procedures III	3
SUR	107	Clinical Applications II	9

General Education Courses   (16 Credit)

SOC	101	Human Relations	3
SCI	111	Microbiology	3
SCI	113	Anatomy & Physiology I	3
SCI	115	Anatomy & Physiology II	3
MEA	103	Medical Law and Ethics	1
MEA	113	Pharmacology	3
Total Technical Certificate Credits			**55**

Suggested courses that help develop students for Technical Courses. These courses are not required and they do not count toward the program.

BSA	007	Spelling	1
BSA	063	Introduction to Anatomy and Physiology	3
BSA	071	Critical Thinking	3
BSA	101	Introduction to Computer Literacy	1
MEA	101	Medical Terminology	3
MEA	288	Success Skills for Human Services and Health Technologies	3

SURGICAL TECHNOLOGY COURSE DESCRIPTIONS

SUR 101 - SURGICAL TECHNIQUES

3 Credits

Introduction to principles of sterile technique and the operative care of the surgical patient. Includes the roles of scrubbing and circulating duties.

SUR 102 - SURGICAL PROCEDURES I

3 Credits

Orientation to the role of a surgical technologist. Introduction to the surgical facility, aseptic technique, and basic surgical procedures with review of total patient care including pre-operative care, diagnostic tests, and immediate post-operative care.

SUR 103-FUNDAMENTALS OF SURGICAL TECHNOLOGY

6 Credits

Demonstration and supervised practice of general surgical procedures. Students correlate theory to clinical by actively participating as members of surgical team. Includes laboratory and clinical components.

SUR 104 - SURGICAL PROCEDURES II

6 Credits

A study of advanced surgical procedure in relation to the total physiological aspects of surgical intervention. This includes a knowledge of the involved anatomy, existing pathology, surgical hazards encountered, the surgical procedure, and a review of total patient care.

SUR 105 - CLINICAL APPLICATIONS I

9 Credits

Correlates the basic principles and theories of the study of advanced surgical procedures to the clinical performance in affiliating hospitals. This includes the knowledge, skills and attitudes necessary for successful implementation of safe patient care in an operating room.

SUR 106 - SURGICAL PROCEDURES III
3 Credits

A study of specialized surgical procedures in relation to the total physiological aspect of surgical intervention. This includes a knowledge of the involved anatomy, existing surgical hazards encountered, the surgical procedures, and a review of total patient care.

SUR 107 - CLINICAL APPLICATIONS II
9 Credits

Correlates the principles and theories of specialized surgical procedures to the clinical performance in affiliating hospitals. This includes the knowledge, skills, and attitudes necessary for successful implementation of safe patient care in an operating room.

SUR 288 - SPECIAL TOPICS IN SURGICAL TECHNOLOGY.
1-5 Credits

A Special Topics Course provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area (Contact Chief Academic Officer for more information).

Division of General Education and Support Services

The General Education and Support Services Division, through a strong General Education Program, stimulates the full intellectual, emotional, and social development of each student. General education undergirds, broadens, and augments the college's technical curriculum. Recognizing its essential value, all Associate degree programs require approximately 25% of degree credits in general education. The division also provides a comprehensive skills advancement program, known as ACCESS, which develops basic skills, attitudes and learning processes to assure success in college programs. Additionally, the division provides an integrated system of academic and counseling support services as well as a Learning Resource Center with library and audio-visual services.

GENERAL EDUCATION

An Associate degree must prepare students to enter the work force and to become full participants in the complex, rapidly evolving multiple environments of American society. The General Education Program provides instruction in mathematics, physical science, communication, and social science, as well as a learning support system of counseling and tutoring, and additional support services.

MATHEMATICS AND SCIENCE

Mathematics is an essential skill in meeting the ever-changing needs of our increasingly complex society.

The study of science leads to an understanding of the basic principles of the physical and life processes in our natural world.

The mathematics and sciences program provides program-level mathematics and science courses, including Algebra, Geometry/Trigonometry, Algebra/Trigonometry, Calculus, Math of Finance, Statistics, Finite Math, Physical Science, Physics, Chemistry, Biology Microbiology and Anatomy and Physiology.

COMMUNICATION AND SOCIAL SCIENCES

Recognizing that language is the foundation for all learning, the communications program encourages the use of language as a creative tool to develop and organize an understanding of self and others. Individuals develop proficiency in process-oriented composition, oral presentation, and professional writing.

The study of social science explores the commonality and diversity of human experience in a pluralistic society.

Courses are offered in composition, professional writing , speech writing, technical writing as well as courses in human relations, general psychology, sociology, political science and economics.

Library/Learning Resource Center

The Library/Learning Resource Center is a source of reference materials, leisure reading, materials related to all program areas of the College, career exploration materials, general magazines and newspapers, audio-visual software and equipment, inter-library loans, textbooks on reserve, reference service, library use assistance, and pay photocopying. Hours are Monday through Thursday, 8:00 a.m. to 9:00 p.m. and Friday, 8:00 a.m. to 5:00 p.m.

SKILLS ADVANCEMENT - ACCESS PROGRAM

Developing basic skills, attitudes and learning processes in order that students may enter and be successful in college programs, the ACCESS program is a comprehensive system of services including initial assessment of skills, specialized counseling services, ongoing course placement and classroom and lab instruction in basic mathematics, language, study skills, critical thinking, and social science. Additional learning assistance is provided through small-group and one-on-one tutoring and computer-assisted instruction. The ACCESS program also provides comprehensive services for special needs students and non-native speakers of English.

ACADEMIC SUPPORT SERVICES

Expert one-on-one tutoring for any course offered by ACCESS or General Education is available in the Tutoring Lab in room 258. The hours are Monday through Thursday 8:00 a.m. to 8:30 p.m., Friday 8:00 a.m. to 12:30 p.m. and Saturday 8:30 a.m. to 11:00 a.m. - 2:00 p.m. to 3:30 p.m. Appointments are optional.

The Computer-Assisted Instruction (CAI) Lab and Interactive Video Disk (IVI) Lab are two microcomputer labs that help students learn concepts and provide students with adequate drill and practice sessions in such areas as the following: reading, writing, grammar, mathematics and science skills, English as a Second Language and study skills. Also, available are GED, technical vocabulary for the deaf, word processing and a wide range of application software.

SPECIAL SERVICES

Testing for course placement and admission to Ivy Tech programs is provided weekly. Included in this session are assessments of reading, writing and mathematics ability. Students who need to complete GED certification or who wish to receive credit

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by testing out of a course should contact the Testing Center for procedures.

Counseling services through the ACCESS program include academic counseling, career testing and counseling, financial aid counseling and personal development counseling. These services are available to students who need supplemental support in order to succeed in their vocational and technical programs.

The Special Needs Program at Ivy Tech serves those students with physical disabilities and learning disabilities that may emerge as barriers to their acquiring job skills. Academic support and counseling services are provided specifically for students with special needs to enhance their independence and career preparation.

GENERAL EDUCATION COURSES

Prefix	No.	Title	Credits
Communications			
ENG	101	English Composition I	3
ENG	102	English Composition II	3
ENG	103	Speech	3
ENG	201	Technical Writing	3
Social Sciences			
SOC	101	Human Relations	3
SOC	102	Introduction to Psychology	3
SOC	103	Intercultural Relations	3
SOC	104	Introduction to Sociology	3
SOC	105	Introduction to Political Science	3
SOC	106	Principles of Macroeconomics	3
SOC	107	Principles of Microeconomics	3
Mathematics			
MAT	101	Algebra I	3
MAT	102	Algebra II	3
MAT	103	Geometry/Trigonometry	3
MAT	104	Algebra/Trigonometry I	3
MAT	105	Algebra/Trigonometry II	3
MAT	106	Calculus	3
MAT	107	Math of Finance	3
MAT	108	Statistics	3
MAT	109	Finite Math	3
Humanities			
HUM	101	Survey of Humanities	3
HUM	102	Ethics	3
HUM	103	Art Appreciation	3
HUM	104	Music	3
Life and Physical Sciences			
SCI	101	Physical Science	3
SCI	102	Physical Science Lab	1
SCI	103	Physics I	3
SCI	104	Physics Lab I	1
SCI	105	Physics II	3
SCI	106	Physics Lab II	1
SCI	107	Chemistry	3
SCI	108	Chemistry LabI	

SCI	109	Biology	3
SCI	110	Biology Lab	1
SCI	111	Microbiology	3
SCI	112	Microbiology Lab	1
SCI	113	Anatomy & Physiology I	3
SCI	114	Anatomy & Physiology Lab I	1
SCI	115	Anatomy & Physiology II	3
SCI	116	Anatomy & Physiology Lab II	1
SCI	203	Advanced Physics	3

GENERAL EDUCATION COURSE DESCRIPTIONS

COMMUNICATIONS

ENG 101 - ENGLISH COMPOSITION I

3 Credits

Emphasizes competence in organizing and expressing ideas in writing. Instruction focuses upon writing process, structure, patterns, and context.

ENG 102 - ENGLISH COMPOSITION II

3 Credits

Builds on the writing skills taught in English 101 and emphasizes on-the-job writing situations. Writing assignments will include memos, letters, resumes, and formal reports.

ENG 103 - SPEECH

3 Credits

Fundamentals of speech, includes preparation and extemporaneous presentation of informative, persuasive and demonstrative speeches, also oral reports appropriate for diverse audiences.

ENG 201 - TECHNICAL WRITING

3 Credits

Builds on the writing skills taught in English 101. Students will demonstrate their ability to prepare a technical report using standard research techniques and demonstrate both written and oral competencies.

SOCIAL SCIENCES

SOC 101 - HUMAN RELATIONS
3 Credits

A study of human behavior and interaction in the work environment. Students learn about themselves and others in order to function effectively.

SOC 102 - INTRODUCTION TO PSYCHOLOGY
3 Credits

Provides a general survey of the field of psychology. Includes study of learning, motivation, perception, psychological disorders, therapy, and research methods.

SOC 103 - INTERCULTURAL RELATIONS
3 Credits

Examines the cultural values and ethics of different cultures prevalent in the United States.

SOC 104 - INTRODUCTION TO SOCIOLOGY
3 Credits

A survey course designed to introduce the student to the science of human society, including fundamental concepts, descriptions, and analysis of society, such as culture, the socialization process, social institutions, and social change.

SOC 105 - INTRODUCTION TO POLITICAL SCIENCE
3 Credits

An introduction to basic principles theories and major factors that influence decision-making within the political process. Contemporary issues of national and world politics are studied.

SOC 106 - PRINCIPLES OF MACROECONOMICS
3 Credits

Provides an overview of macroeconomic issues: the determination output, employment, unemployment, interest rates, and inflation. Monetary and fiscal policies are discussed, as are public and international economic issues. Introduces basic models of macroeconomics and illustrates principles based upon the experience of the U.S. and foreign economics.

SOC 107 - PRINCIPLES OF MICROECONOMICS
3 Credits

Introduces the nature and method of economics, the price system, and capitalism. In addition, the course covers demand, supply, and elasticity, the costs of production, and how these costs are determined. Concludes with an examination of how factors of production are determined under perfect competition in monopolistic competition, and digopoly.

MATHEMATICS

MAT 101 - ALGEBRA I
3 Credits
Presents an in-depth study of the fundamental concepts and operations of algebra. Introduces algebra through linear equations in one unknown. Includes functions, graphing, powers of ten, scientific notation, rational expressions, the metric system and elements of right triangle trigonometry.

MAT 102 - ALGEBRA II
3 Credits
Provides further study in algebra with emphasis on systems of equations. Includes fractional and quadratic equations, factoring and logarithms. Includes additional topics i trigonometry such as oblique triangles, reactors and graphing.

MAT 103 - GEOMETRY/TRIGONOMETRY
3 Credits
Covers geometric topics including fundamentals of geometry, polygons, solid geometry, properties of circles, constructions, right triangles and trigonometric ratios as they apply to right and oblique triangles, and graphing of trigonometrics functions.

MAT 104 - ALGEBRA/TRIGONOMETRY I
3 Credits
Provides study in algebra including factoring, algebraic fractions, graphing of functions, polar coordinate systems plus right triangle trigonometry.

MAT 105 - ALGEBRA/TRIGONOMETRY II
3 Credits
Continuation of Algebra/Trigonometry 1 with emphasis on oblique triangles, graphs of trigonometric functions, radicals,

complex numbers, exponential and logarithmic functions, inequalities, variation and trigonometric identities.

MAT 106 - CALCULUS

3 Credits

Presents an overview of analytical geometry and calculus including conic sections, limits, derivatives and integrals.

MAT 107 - MATH OF FINANCE

3 Credits

Covers percents, ratios, percents, integers, equations, interest, consumer credit, payroll and taxes, markup and markdown, discounts, inventory and depreciation, and financial statements.

MAT 108 - STATISTICS

3 Credits

Study of the collection, interpretation and presentation of descriptive and inferential statistics. Includes measures of central tendency, probability, binomial and normal distributions, hypothesis testing of one and two sample populations, confidence intervals, chi-square testing, and correlation.

MAT 109 - FINITE MATH

3 Credits

Review of algebraic expressions and equations, inequalities, metrics, linear programming, conversion between number bases, set notation, properties and operations of set theory. Introduces logic, Boolean algebra, and probability.

HUMANITIES

HUM 101 - SURVEY OF HUMANITIES

3 Credits

Familiarizes students with the interrelated disciplines within the humanities: literature, fine arts, history, music, architecture, and philosophy.

HUM 102 - ETHICS

3 Credits

A study of ethical language, methods of justifying ethical decisions and types of ethical value systems, with emphasis on practical applications in terms of personal and social morality.

HUM 103 - ART APPRECIATION

3 Credits

A broad survey of the world's art, from prehistoric to contemporary. Emphasis is on an appreciation of art through understanding its purposes and origins.

HUM 104 - MUSIC APPRECIATION

3 Credits

A non-technical course designed to familiarize the student with the forms of music. Covers instruments of the orchestra, the style characteristics of major composers, commonly used musical terms and pertinent information about composers, performers, and conductors. Directed listening assignments and readings are required.

LIFE AND PHYSICAL SCIENCES

SCI 101 - PHYSICAL SCIENCE

3 Credits

A non-mathematical introduction to physical concepts and theories demonstrating knowledge of current applications and developing trends in the fields of physics, chemistry, earth science and astronomy.

SCI 102 - PHYSICAL SCIENCE LAB

1 Credit

Provides for applications in experimentation and analysis in the physical sciences.

SCI 103 - PHYSICS II

3 Credits

A practical approach to the basic physics of force, work, rate, momentum, resistance, potential and kinetic energy, and power. Applications of these concepts to the four energy systems - mechanical, fluid, electrical and thermal.

SCI 104 - PHYSICS LAB I1

1 Credit

Provides for applications in experimentation and analysis in Physics I.

SCI 105 - PHYSICS II

3 Credits

A continuation of Physics I presenting the concepts of force transformers, energy converters, transducers, vibrations and waves, radiation, optics and optical systems.

SCI 106 - PHYSICS LAB II

1 Credit

Applications in experimentation and analysis for Physics 2.

SCI 107 - CHEMISTRY

3 Credits

An introductory study of chemical operations. Includes atomic structure, chemical bonding, oxidation-reduction, properties of matter, solutions, chemical equilibrium, acids, bases, salts, pH and concentrations.

SCI 108 - CHEMISTRY LAB

1 Credit

Applications in experimentation and analysis for Chemistry.

SCI 109 - BIOLOGY

3 Credits

Introduction to basic concepts of life forms, structures of plants and animals, human body systems, genetics, ecology and behavior. Surveys contemporary issues with regard to human interaction with the natural environment.

SCI 110 - BIOLOGY LAB

1 Credit

Applications in experimentation and analysis in Biology.

SCI 111 - MICROBIOLOGY

3 Credits

Applications of science to the problems of sterilization, growth and conditions of survival of microorganisms, infection, immunity, residence and isolation techniques.

SCI 112 - MICROBIOLOGY LAB

1 Credit

Applications in experimentation and analysis for Microbiology.

RELATED EDUCATION

Education courses which bear the REL prefix are used only in Technical Certificate programs. Descriptions for these courses follow in this section. Other Related Education courses bear the prefix of the programs in which they originate. These course descriptions are located in the program sections. In addition, General Education courses may also be used to fulfill Related Education Requirements.

RELATED EDUCATION COURSES

Prefix	101	Integrated Business	Credits
REL	101	Technical Communications I*	3
REL	102	Technical Communications II*	3
REL	111	Technical Mathematics I*	3
REL	112	Technical Mathematics II*	3
REL	113	Fundamentals of Math*	3
ACC	101	Accounting Principles I	3
ACC	108	Career Essentials of Accounting	3
BUS	101	Introduction to Business	3
BUS	102	Business Law	3
BUS	103	Office Administration	3
BUS	201	Principles of Management	3
BUS	202	Human Resources Management	3
BUS	208	Organizational Behavior	3
CUL	203	Table Service	3
CPT	101	Data Processing Fundamentals	3
CPT	103	Logic and Documentation	3
CPT	202	Data Communications	3
CPT	203	Systems Analysis and Design	3
INF	101	Introduction to Microcomputers	3
INF	206	Integrated Business Software	3
IST	101	Quality Control Concepts and Techniques I	3
IST	102	Techniques of Supervision I	3
IST	104	Techniques of Supervision II	3
IST	203	Reliability Objectives	3
IST	206	Time and Motion Study	3
IST	207	Manufacturing Costs and Value Analysis	3

IST	208	Materials Handling	3
IST	211	Labor Relations	3
IST	212	Manufacturing Organizations I	3
IST	215	Purchasing and Inventory Control	3
MKT	101	Principles of Marketing	3
MKT	102	Principles of Selling	3
MKT	202	Logistics/Purchasing Control	3
SEC	110	Keyboarding Skill Development	3
AMT	101	Manufacturing Processes	3
AMT	102	Introduction to Robotics	3
AST	104	Start and Charge Systems	3
AST	201	Heating and A/C Principles	3
DCT	103	CAD Fundamentals	3
DPT	201	Diesel Overhaul I	3
DPT	202	Diesel Fuel Systems 2	3
DPT	205	Diesel Overhaul II	3
DPT	206	Diesel Engine Tune Up	3
ELT	100	Circuits I	4
ELT	103	Digital Principles	3
ELT	104	Computer Fundamentals for Technology	3
ELT	105	Solid State I	3
ELT	113	Basic Electricity	3
IMT	102	Introduction to Print Reading	3
IMT	103	Motors and Motor Control	3
IMT	104	Fluid Power Basics	3
IMT	120	Metal Fundamentals	3
IMT	121	Industrial Safety	3
IMT	202	Electrical Circuits	3
MTT	101	Machine Fundamentals I	3
MTT	108	Precision Measurement	3
MTT	204	CNC Programming I	3
WLD	114	Introductory Welding	3
HST	106	Physiology of Aging	3
HST	108	Psychology of Aging	3
HST	115	Applied Behavioral Psychology	3
MEA	101	Medical Terminology	3
MEA	102	First Aid and CPR	3
MEA	103	Medical Law and Ethics	3
MEA	113	Pharmacology	3
ART	204	Art History Survey I	3
ART	208	Art History Survey II	3

*For Technical Certificates Only

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RELATED EDUCATION COURSE DESCRIPTIONS (FOR TECHNICAL CERTIFICATES)

REL 101 - TECHNICAL COMMUNICATIONS I

(Only for TC students)

3 Credits

A review of the basic written and spoken English required for a variety of technical fields.

REL 102 - TECHNICAL COMMUNICATIONS II

(Only for TC students)

3 Credits

A continued study of the basic written and spoken English required for a variety of technical fields.

REL 111 - TECHNICAL MATHEMATICS I

(Only for TC students)

3 Credits

Reviews basic mathematics for various technical fields with emphasis on measurement, ratio, proportion, percentage, formula evaluation, problem solving. geometric concepts and right triangle trigonometry.

REL 112 TECHNICAL MATHEMATICS II

(Only for TC students)

3 Credits

Continued application of mathematical principles and processes to technical fields. Introduces basic geometry with emphasis on equations, squares, square roots and problem solving.

REL 113 - FUNDAMENTALS OF MATH

(Only for TC students)

3 Credits

Introduces algebra, scientific notation, linear equations, graphing, metric system, measurement of plane and solid figures.

SKILLS ADVANCEMENT

BSA	007	Spelling	1
BSA	024	Introduction to English I	3
BSA	025	Introduction to English II	3
BSA	028	Vocabulary Building	2
BSA	031	Reading I	3
BSA	032	Reading II	3
BSA	041	Mathematics I	1
BSA	042	Mathematics II	1
BSA	043	Mathematics III	1
BSA	045	Mathematics	3
BSA	051	Introduction to College Algebra	3
BSA	052	Introduction to College Trigonometry	3
BSA	053	Introduction to College Geometry	3
BSA	060	Introduction to Physics	2
BSA	061	Introduction to Chemistry	2
BSA	062	Introduction to Microbiology	2
BSA	063	Introduction to Anatomy/Physiology	2
BSA	070	College Study Principles	3
BSA	071	Critical Thinking	3
BSA	073	Introduction to Keyboarding	1
BSA	074	Introduction to Computer Literacy	1
BSA	090	GED Prep	2
BSA	091	GED Prep II	2
BSA	095	Principles of GED	3
BSA	288	Handwriting	1
BSA	288	Language Skills	3
BSA	288	Reading Skills	3
BSA	288	Math Skills	3
BSA	288	Success Skills for Business	3
BSA	001	ESL I	3
BSA	288	ESL Reading I	3
BSA	288	ESL Writing I	3
BSA	288	ESL Listening and Speaking I	3
BSA	288	ESL II	3
BSA	288	ESL Reading II	3
BSA	288	ESL Writing II	3
BSA	288	ESL Listening and Speaking II	3
BSA	288	ESL III	3
BSA	288	ESL Reading III	3
BSA	288	ESL Writing III	3
BSA	288	ESL Listening and Speaking III	3

BSA	002	ESL IV	3
BSA	288	ESL Reading IV	3
BSA	288	ESL Writing IV	3
BSA	288	ESL Listening and Speaking IV	3

BASIC SKILLS ADVANCEMENT COURSE DESCRIPTIONS

BSA 007 - SPELLING

1 Credit

Develops spelling skills by thorough practice in spelling with attention to rules and exceptions.

BSA 024 - INTRODUCTION TO ENGLISH I

3 Credits

Introduces basic writing skills with emphasis on sentence structure and basic grammar. Paragraph structure is introduced.

BSA 025 - INTRODUCTION TO ENGLISH II

3 Credits

Furthers skills gained in BSA 024 with emphasis on paragraph structure and essay writing.

BSA 028 - VOCABULARY BUILDING

2 Credits

Concentrates on developing general English vocabulary, as well as vocabulary of a chosen technology. Dictionary skills and context skills are included.

BSA 031 - READING I

3 Credits

Emphasizes comprehension, vocabulary, and word attack skills beginning at a basic level.

BSA 032 - READING II

3 Credits

Advances skills acquired in BSA 031 - comprehension, vocabulary, and word attack and further prepares students for program-level courses.

BSA 041 - MATHEMATICS I
1 Credit
Develops the basic computational skills of whole numbers and fractions.

BSA 042 - MATHEMATICS II
1 Credit
Reviews basic computational skills of fractions and develops computation skills in decimals.

BSA 043 - MATHEMATICS III
1 Credit
Reviews basic computational skills in percents, ratio and proportion and measurement.

BSA 045 - MATHEMATICS
3 Credits
Reviews instruction in basic computational skills and their applications.

BSA 051 - INTRODUCTION TO COLLEGE ALGEBRA
3 Credits
Concentrates on basic algebra skills in preparation for college algebra.

BSA 052 - INTRODUCTION TO COLLEGE TRIGONOM-
ETRY
3 Credits
Develops basic trigonometry skills to prepare the student for further study in trigonometry.

BSA 053 - INTRODUCTION TO COLLEGE GEOMETRY
3 Credits
Develops basic geometry skills to prepare the student for further study in geometry.

BSA 060 - INTRODUCTION TO PHYSICS
2 Credits
Provides basic instruction for physical concepts and technical vocabulary.

BSA 061 - INTRODUCTION TO CHEMISTRY
2 Credits
Introduces basic principles of chemistry and technical vocabulary.

BSA 062 - INTRODUCTION TO MICROBIOLOGY
2 Credits
Develops a basic understanding of microbiology concepts and technical vocabulary.

BSA 063 - INTRODUCTION TO ANATOMY/PHYSIOL-OGY
2 Credits
Studies the basics of the human body as an integrated unit.

BSA 070 - COLLEGE STUDY PRINCIPLES
3 Credits
Orients and motivates students for success in college. Develops the skills of textbook-reading, note-taking, and test-taking.

BSA 071 - CRITICAL THINKING
3 Credits
Develops critical thinking and problem-solving skills through the recognition of patterns, cause-and-effect relationships, and consideration of alternatives and priorities.

BSA 073 - INTRODUCTION TO KEYBOARDING
1 Credit
Deals with basic keyboarding skills applicable to a typewriter or computer.

BSA 074 - INTRODUCTION TO COMPUTER LITERACY
1 Credit
Introduces basic computer literacy skills development.

BSA 090 - GED PREP
2 Credits
Presents in-depth preparation for the mathematics and science sections of the GED test.

BSA 091 - GED PREP II
2 Credits
Offers in-depth preparation for the social studies, reading, and writing sections of the GED test.

BSA 095 - PRINCIPLES OF GED
3 Credits
Reviews all subject areas on the GED test. Includes mathematics, science, social studies, reading, and writing sections.

BSA 288 - -HANDWRITING

1 Credit

Focuses on individual diagnoses of penmanship faults, demonstration of handwriting techniques, and guided practice.

BSA 288 - LANGUAGE SKILLS

3 Credits

Strengthens the ability to identify and write complete sentences by emphasizing dictionary usage and word study.

BSA 288 - READING SKILLS

3 Credits

Introduces study skills in the areas of reading comprehension, vocabulary, and logical thinking skills.

BSA 288 - MATH SKILLS

3 Credits

Reviews whole numbers, fractions, and decimals.

BSA 001 - ESL I

3 Credits

Focuses on simple verb tenses, parts of speech, word order, capitalization, and punctuation. Designed for students whose first language is not English.

BSA 288 - ESL READING I

3 Credits

Emphasis on vocabulary building, word attack skills, reading comprehension. Designed for students whose first language is not English.

BSA 288 - ESL LISTENING/SPEAKING I

3 Credits

Focuses on how tp make simple requests, ask for directions, request permission, ask what something means, speak intelligibly.

BSA WRITING I

3 Credits

Focuses on wsriting simple sentences, controlled paragrpahs, and exposiotry paragraphs. Designed for students whose first language is not English.

BSA 288 ESL II

3 Credits

Focuses on review of simple tenses. Introduces compound tenses, modales, clauses, and comparisons. Designed for students whose first language is not English.

BSA 288 - ESL READING II

3 Credits

Emphasis on vocabulary building and reading comprehension. Designed for students who first language is not English.

BSA 288 - ESL WRITING II

3 Credits

Emphasis on sentence combining, through phrases and clauses to produce compound and complex sentences. Practice on unity and style in paragraph writing. Designed for students whose first language is not English.

BSA 288 - ESL LISTENING AND SPEAKING II

3 Credits

Emphasis on practical ideas and idiomatic speech as used in day-to day living. Designed for students whose first language is not English.

BSA 288 - ENGLISH AS A SECOND LANGUAGE III

3 Credits

Focuses on compound and complex sentence structure. Builds on and reviews basic grammatical skills. Designed for students whose first language is not English.

BSA 288 - ESL READING III

3 Credits

Emphasis on vocabulary building, word analysis skills, reading comprehension, and dictionary usage. Designed for students whose first language is not English.

BSA 288 - ESL WRITING III

3 Credits

Focus on writing short expository compositions of one to five paragraphs. Emphasis will be placed on clarity, organization, supporting details, unity and transition. Designed for students whose first language is not English.

BSA 288 -ESL LISTENING AND SPEAKING III

3 Credits

Learning to converse at a normal speed through paired and small group practice. Emphasis is on idioms and listening comprehension. Designed for students whose first language is not English.

BSA 288 - ESL IV

3 Credits

Emphasis on complex sentence structures, proper tense sequence, and logical thinking. Designed for students whose first language is not English.

BSA 288 - ESL READING IV

3 Credits

Focuses on improving all levels of reading proficiency, reading speed, comprehension, vocabulary, and general study skills. Designed of students whose first language is not English.

BSA 288 - ESL WRITING IV

3 Credits

Focuses on improving skills in expository writing of longer compositions. Designed for students whose first language is not English.

BSA 288 - ESL LISTENING AND SPEAKING IV

3 Credits

Focuses on basic skills of speech, verbal and non-verbal; study of speech construction, platform behavior and voice. Presentations by students alternating with lecture by instructor. Designed for students whose first language is not English.

Full-Time Faculty

Applied Science and Technologies

Duane Alfrey, Instructor (Welding Technology). Certification: American Welding Society.

Huey Calvain, Senior Instructor (Program Coordinator, Welding Technology). Certification NOTCI (National Occupational Testing Competency Institute), and American Welding Society.

David Carlton, Instructor (Machine Tool Technology). CNC, Indiana Vocational Technical College.

Michael DeBourbon, Master Instructor (Department Chairperson, Manufacturing Technologies). M.S., Indiana University; B.S., Southern Illinois University.

Leo Doyle, Instructor (Electronics Technology). B.E.T., State University College at Buffalo, New York; A.A.S., State University of New York.

James G. Feller, Instructor (Automotive Service Technology). B.S., Indiana State University .

Ronald Finney, Instructor (Chairperson, Automotive Service Technology). B.S., Indiana University.

William T. Flanigan, Instructor (Chairperson, Heating, Air Conditioning and Refrigeration Technology). M.S., Indiana Wesleyan University; B.S., Tri-State University .

Michael Hall, Instructor (Chairperson, Automated Manufacturing Technology). M.S., Purdue University; B.S., Purdue University.

Larry E. Hoskins, Instructor (Chairperson, Applied Fire Science). B.S., Southern Illinois University; A.A.S., Indiana Vocational Technical College.

Robert Howell, Master Instructor (Department Chairperson, Technical Services). M.S., Indiana State University; B.S., Purdue University.

Vernon Huddleston, Instructor (Automotive Service Technology). A.A.S., Indiana Vocational Technical College.

James Irwin, Instructor (Heating, Air Conditioning and Refrigeration Technology). A.A.S., Indiana Vocational Technical College.

Kenneth King, Master Instructor (Chairperson, Industrial Laboratory Technology). M.S., Indiana University-Purdue University at Indianapolis; A.B., Indiana University; Certificate in Meteorology, St. Louis University .

Stephen Kuchler, Senior Instructor (Electronics Technology). B.S., Purdue University .

James McFarland, Master Instructor (Chairperson, Drafting/CAD Technology). B.S., Indiana State University.

David E. Miller, Master Instructor (Electronics Technology). M.S., Indiana University; B.S., Purdue University.

Marcy Miller-Seller, Instructor (Drafting/CAD Technology). B.S., Purdue University.

James Pettit, Instructor (Heating, Air Conditioning and Refrigeration Technology).

Jereld Reeder, Instructor (Chairperson, Electronics Technology). M.S.E.E., Purdue University; B.S.E.E., University of Iowa.

Owen Sensenbrenner, Instructor (Chairperson, Industrial Maintenance). M.S., Indiana State University; B.A., Indiana State University.

Gary Sobczak, Instructor (Drafting/CAD Technology). M.A.I.T.S., Cal Poly State; B.A.I.A., Cal Poly State.

John M. Sollman, Senior Instructor (Divisional Chairperson, Applied Science and Technologies). M.A., Ball State University; B.S., Ball State University.

Greg Spindler, Instructor (Drafting/CAD Technology). B.S., Indiana State University.

Norman Tunison, Senior Instructor (Program Coordinator, Automotive Body Speciality). Certification: Automotive Service Excellence and Inter-industry Conference on Auto Collision Repair.

Michael Wallace, Instructor (Heating, Air Conditioning, and Refrigeration Technology). B.A., Marian College.

Joyce Wilkerson, Instructor (Machine Tool Technology). B.S., Martin College; A.A.S., Indiana Vocational Technology College.

Bob Wurtz, Instructor (Electronics Technology). B.A., Purdue University.

Division of Business, Office and Information Systems Technologies

Russell E. Bankert, Master Instructor. B.S., Illinois State University.

Jeff Baron, Instructor (Chairperson, Marketing Technology). M.S., Indiana Wesleyan University; B.A., Indiana University-Purdue University at Indianapolis.

Margaret Baumer, Instructor (Administrative Office Technology). M.S., Wright State University I.U.; B.S., University of Cincinnati.

Jimmie Beeler, Master Instructor (Business/Management). M.S., Butler University; A.B., Indiana University.

Bernadette Cinkoske, Senior Instructor (Computer Programming Technology). B.A., Indiana University.

Marvin L. Daugherty, Master Instructor (Chairperson, Computer Programming Technology). B.S., Martin Center College; A.A.S., Indiana Vocational Technical College.

Dianne Francis, Instructor (Training, Inc.). B.S., University of Wisconsin.

Anita Gibson, Instructor (Training, Inc.). B.S., South Dakota State University.

Harry E. Gray, CPA, Instructor (Accounting Technology). B.S., Butler University; Indiana CPA License.

William L. Greathouse, Instructor (Chairperson, Hotel/Motel Management). B.S., Purdue University; A.A.S., Purdue University; Certification: Front Office Executive; Rooms Division Executive.

Joanna Head, Instructor (Administrative Office Technology). M.S., Butler University; B.S., Butler University.

Debra Leverette, Instructor (Chairperson, Administrative Office Technology). M.S., Indiana University; B.S., Ball State University.

Audrey McFarland, Instructor (Training, Inc.).

Linda McMurray, Instructor (Training, Inc.).

Ray Nealon, Instructor (Chairperson, Distribution Management and Industrial Supervision Technology). M.M.S., Indiana Wesleyan University; B.S., St. Lawrence University.

Douglas Nering, Instructor (Department Chairperson, Management Services). M.B.S., University of Indianapolis; B.S., Purdue University.

Phillip Patterson, Instructor (Training, Inc.). B.A., Anderson College.

Alan Rowland, Instructor (Chairperson, Information/Data Management). B.S., Ball State University.

Carl Salzman, Instructor (Chairperson, Paralegal Technology). J.D., Indiana University Law School; B.S., Indiana University-Purdue University at Indianapolis.

Linda L. Scott, Senior Instructor (Department Chairperson, of Administrative Services). M.A., Ball State University; B.S., Ball State University; A.A.S., Ball State University.

Eugene Spiess, Instructor (Information Data Management). Ed.D., Nova University; M.A., East Tennessee State University; B.S., Tiffin University.

Vivian Terry, Instructor (Chairperson, Culinary Arts Technology). B.S., Alcorn State University; Culinary Apprenticeship, Delgado Community College.

Deanna S. Timmons, Master Instructor (Divisional Chairperson, Business, Office and Information Systems Technologies). M.S., Butler University; B.S., University of Indianapolis.

Holly Tucker, Instructor (Computer Programming Technology). M.A., Indiana University of Pennsylvania; B.A., Grace College.

Human Services and Health Technologies

Diana Bennett, Senior Instructor (Department Chairperson, Human Services Technology). M.S., DePauw University; B.S.N., DePauw University.

Cheryl Clarkson, Instructor (Nursing Practical). B.S.N., Indiana University.

Jo Coleman, Instructor (Nursing Practical). M.S., Indiana University-Purdue University at Indianapolis; B.S.N., Michigan State.

Verna Coons, Master Instructor (Chairperson, Nursing Practical). M.S.N., Indiana State University; B.S.N., Indiana University.

Margaret Darnell, Instructor (Medical Assistant). M.A., Indiana University - Indianapolis; B.A., Marion College.

Barbara Deady, Master Instructor (Clinical Coordinator, Nursing Practical). B.S., Indiana State University.

Florence Elmore, Master Instructor (Chairperson, Surgical Technology). M.S., Indiana University; B.S., Indiana University-Purdue University at Indianapolis.

Ann Hill, Instructor (Nursing Practical). B.S., St. Louis University.

Angela Hornak, Instructor (Nursing Practical). B.S.N., Indiana University-Purdue University at Indianapolis.

Martha Judson, Instructor (Nursing Practical). B.S.N., Indiana State University; A.D.N., Indiana State University.

Kay Kavanagh, Master Instructor (Department Chairperson, Health Services). M.S., Indiana University; B.A., Marion College.

Robert Keck, Senior Instructor (Anatomy/Physiology). M.S., Indiana State (Science Ed.); M.S., College of St. Francis Health Service Adm.; B.S., Southern Indiana.

Geneva Lamm, Instructor (Nursing Practical). B.S., Indiana University; A.A.S., Indiana University.

Kathleen Lee, Senior Instructor (Chairperson, Respiratory Care). M.S., Indiana University; B.S., Muskingun College; A.A.S., Indiana University.

Mary Ann Lewis, Senior Instructor (Nursing Practical). D.N.S., Indiana University; M.S., Butler University; B.S.N., Marillac College.

Peter Magnant, Master Instructor (Divisional Chairperson, Human Services and Health Technologies). M.S., Indiana University; B.A., St. Mary's College; B.S., Indiana University; A.A., Nursing, Indiana University.

Mary Meek, Instructor (Nursing Practical). B.S.N., Ball State University; A.D.N., University of Indianapolis.

Beverly Parham, Master Instructor (Nursing Practical). M.S., Indiana University; B.S., Oklahoma State University.

Teresa Jablonski-Polk, Senior Instructor (Chairperson, Human Services). B.A., University of Kentucky; B.A., Washington University.

Linda Reed, Instructor (Chairperson, Medical Assistant). M.S., Indiana University; B.S., Indiana University; Diploma, Marion County General Hospital School of Nursing.

Sharon Sullivan, Instructor (Chairperson, Child Development). M.A., Ball State University; B.S., Western College.

Brent Wall, Instructor (Respiratory Care). B.A., Indiana University; A.S.R.T., Indiana University.

Jane Wallace, Senior Instructor (Nursing Practical). B.S., Ball State University .

Willie Whitfield, Instructor (Human Services). M.S., Alabama A & M University; B.A., Alabama A & M University.

Miles Wyatt, Instructor (Chairperson, Radiologic Technology). B.S., Indiana University; A.S., Indiana University.

General Education and Support Services

Rebecca Anderson, Instructor (Resource Center). M.S., Indiana University-Purdue University at Indianapolis; B.S., Ball State University.

Connie Bolinger, Senior Instructor (Coordinator, Mathematics/Science). M.A.T., Mathematics, Purdue University; B.A., DePauw University.

Lee Churchill, Master Instructor (Developmental/Writing). M.S., Indiana University; M.S., University Wisconsin; M.A., University Wisconsin; B.A., Rutgers University.

W. Michael Clippinger, Master Instructor (Division Chairperson, General Education and Support Services). M.A., Indiana University; Certified Specialist in Developmental Education, Appalachian State University.

Cindy Downer, Instructor/Counselor (English as a Second Language). M.A., Indiana University; B.A., Indiana University.

Michael Gorsline, Senior Instructor (Developmental/Mathematics). M.A., Ball State University; B.A., Indiana University (South Bend).

Marilyn Hamilton, Instructor (Developmental/Mathematics). M.S., Butler University; B.S., Purdue University.

Ronald Hollowell, Instructor (Developmental/Writing). Ed.D., Indiana University; M.A., Indiana University; B.S., Indiana Central.

Nancy Lowe, Senior Instructor (Coordinator, Communications /Social Science). M.S., Indiana University; B.S., Indiana University.

Ali Lotfi, Instructor (Coordinator, Computer Assisted Instruction). M.S., Indiana University; B.A., Tehran University.

Susan Mannan, Master Instructor (Coordinator, Learning Resource Center). M.A., Indiana University; B.A., Heidelberg College.

Susan Miller, Instructor (Developmental/Reading). M.S., Indiana University; B.S., Indiana University.

Simin Shirzadi, Instructor (Tutoring Specialists). Ed.S., Western Michigan University; M.A., Western Michigan University; B.A., Western Michigan University.

LeRoy Snare, Instructor (Mathematics/Physical Science). M.S., Massachusetts Institute Technology, Cambridge, MA; M.S., University of Missouri, Columbia, MO; B.A., University of Missouri, Kansas City.

Janet Strandjord, Instructor (Learning Development). M.S., Indiana University; B.A., University of Illinois.

Margaret Thomas, Instructor/Counselor (Developmental Reading/ Mathematics). B.S., Winthrop College.

Patricia Thornburgh, Assistant Instructor (Developmental/Mathematics). A.S., Indiana University .

Virginia Wissel, Instructor (English as a Second Language). Ed.S., Nova University; M.A., University of Dayton; B.S., Seton Hall Universtiy.

Christopher Wood, Master Instructor (Skills Advancement Assistant Coordinator). M.A., Indiana University; B.A., Indiana University.

Index

College Calendar

Spring Semester 1991
January 14   Classes Begin
March 11 - 16   Midterm Break
May 11   Classes End

Summer Session 1991
May 20   Classes Begin
May 27   Memorial Day
July 4   Independence Day
August 2   Classes End

Fall Semester 1991
August 26   Classes Begin
September 2   Labor Day Holiday
October 22-23   Midterm Break
November 28-29   Thanksgiving Holiday
December 21   Classes End

Spring Semester 1992
January 13   Classes Begin
May 9   Classes End

IVYTECH
Indiana's Technical College

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